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ORIGINAL COMMUNICATIONS.

A REPORT OF A CASE OF A FŒTUS ENCLOSED IN ITS SISTER'S PLACENTA. *Fœtus compressus. Fœtus papyraceus.*

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(Read before the Chicago Gynecological Society, 16th June, 1885.)

On September 26th, 1882, Mrs. T. J. B., aged twenty-two years, of a nervous sanguine temperament, and healthy, was delivered of a healthy, well-formed female child at term, after a normal labour of four hours' duration. During the delivery of the placenta some abnormity was detectable, which proved to be a *fœtus papyraceus.*

The extreme rarity of such an occurence has led to a careful investigation of the subject, which is herewith recorded.

The outer surface of the placenta.—The appearance of the uterine surface of the placentæ at once arrests attention. A deep furrow separates the two placentæ, which are united on their amniotic surfaces by a series of compact white bands discov-

erable only by pressing through the furrow. The larger placenta constitutes about two-thirds of the entire mass. The smaller placenta is thin, flat and compact, being about one-third as thick as the larger one.

The placenta of the living child is normal throughout its extent. Its cotyledons are well marked, the tufts and villi presenting normal microscopical appearance. It is free from fatty and calcareous degenerations

The placenta of the *fœtus compressus* in about nine-tenths of its extent is whitish-yellow, very firm, free from cleavage, and it feels much firmer and more compact than the spongy cotyledons of an ordinary placenta.

The whole thickness of this portion of the placenta, excepting its amniotic surface, presents one unbroken mass of fatty degeneration. The remaining one-tenth of the placenta presents a carneous appearance, evidently a transition stage between normal placenta and complete fatty degeneration. Its cotyledons are enmassed, and its tufts and villi solidified, and the whole is interspersed with initial fatty depositions.

The fœtal surface of the placenta.

The two segments were wholly different at the time of birth. The placenta of the living child presented an entirely normal appearance. Its cord is inserted about four cm. from the free border away from that of the dead fœtus. The placenta of the *fœtus papyraceus* presented the appearance of a closed bladder, which upon examination was found to be an unruptured amnion containing amniotic fluid and a fœtus. The fœtus, felt at the placenta's delivery, is what constituted the abnormity thus noticed.

The fœtus.—The sack, being opened, revealed a compressed fœtus of about three months' growth. It rested with its back towards the free border of the placenta and the anterior sur-

face of the body towards the line of union of the two placentæ.

Its right arm lay in *front* of the chest, the fingers resting near the left acromion process. Its left arm lay in a similar position *behind* the thorax, the fingers resting over the right scapula. The legs were well drawn up till the feet rested on a level with head.

The head was turned so that the chin covered the left shoulder.

In this position the entire fœtus was compressed tightly by its rapidly growing sister till, at birth, it presented the flattened-out appearance which gives it its name, *fœtus compressus*, or *fœtus papyraceus*. The body was flattened from before backward, while the head was flattened from side to side. The two parietal bones made a wedge. The occipital bone lay across the lower segment of the wedge. The two frontal bones made a wedge. The lower jaw also made a wedge. The outline of the head was rhomboidal. The fissures for the eyes were clearly seen. The nose was much flattened. The tongue was especially easily shown.

The cord of the *fœtus papyraceus* was longer by ten centimeters than its fellow, and much thinner. It was inserted quite at the line of union of the two placentæ. It was not unusually twisted.

The following measurements of the fœtus and placenta have been taken:

FŒTUS.

Vertex to coccyx.....	12	centimetres.
Right arm, including hand.....	6	"
Left " " "	7	"
Left thigh.....	3	"
" leg, including foot.....	7	"
Acromion to acromion.....	4½	"

Head—

Oblique diameter—largest	4	centimetres.
" " —smallest	3½	"
Straight "	3½	"
Width	1⅓	"

PLACENTA.

1. Of the living child—

Long diameter	12	centimetres.
Short "	10	"
Cord—length	30	"
" —thickness	1¼	"

2. Of the *fœtus papyraceus*—

Long diameter	11	centimetres.
Short	7	"
Amnion	9	"
Cord—length	40	"
" —thickness	4-10	"

PATHOLOGY.

Various causes produce the death of the fœtus. The following may be mentioned:

1st. Faulty insertion of the cord at the margin of the placenta adjoining its fellow, leading to its fatal compression, has been advanced as a possible cause of death of the fœtus. KIESELHAUSEN mentions this faulty cord insertion combined with an extravasation of blood between the placenta and uterus at the location of the placenta of the smaller ovum as the cause of death in the two cases cited in his report (*Dissertatio inauguralis. De fœtibus immaturis uno partu cum maturis editis.*)

2nd. Faulty structure of the cord is another cause of death of the fœtus, as a membranous cord, a thin cord, a twisted cord, or one that is deficient in gelatine, and hence is emaciated and constricted in place.

C. BRAUN found in one case that the cause of death was the membranous insertion of the cord together with its numerous windings about the neck and extremities of the fœtus. (*Breslau. Monatschrift. für Geburtsk. und Frauenkrankh. xiii, 470.*)

3rd. Disease of the placenta was at one time also given as a cause of death of the fœtus. However, HECKER, in 1861 (*Klinik der Geburtskunde, Leipzig,*) and KLEINMEISTER, in 1871 (*Lehre von den Zwillingen, Prag,*) considered placental diseases as secondary in the cause of death. It would appear rational to conclude that any systemic condition, as syphilis, would lead to disease of both placentæ instead of but one placenta. Under the head of "*Fibrous obliteration of the placental villi with or without fatty degeneration*" have been described, *induration* of the placenta, *encephaloid placenta, scirrhous* placenta, *tuberculous placenta and fatty* placenta. Any one of these conditions may cause the death of the fœtus.

4th. Violence may be reckoned as another cause of death of the fœtus.

I delivered a stout English woman of twins, with *placenta prævia*, where one fœtus was at full term and the other was about four months advanced toward maturity. She affirmed that at that time she fell, one day, against a tub, striking its edge with her abdomen. A slight hæmorrhage occured at the time. Ever after that she felt sore at the point struck. The inference is that a sufficient violence was done to cause a hemorrhage into the villi of the chorion, which caused the death of the fœtus.

5th. Another cause of death of one fœtus may be the implanting too closely together of the umbilical vessels, whence result arterial anastamoses. Thus the blood current of one system may become more powerful than the other, and the

main stream becomes diverted toward the more powerful one. The circulation of one fœtus is progressively impaired till it perishes, when at the same time its *liquor amnii* is secreted no more.

References :

The extreme rarity of *fœtus papyraceus* is shown in its seldom being reported in current medical literature and in its rarely being mentioned in works on midwifery. A search through the Library of the Surgeon General's office at Washington, resulted in finding five references to reports of similar cases, which are herewith given. It is doubtless true that many cases would be reported were it not for the hasty and imperfect examinations of placentæ made by physicians, which result in completely overlooking the presence of an enclosed fœtus.

The writer has looked through full files of the following named journals, to secure as many references as possible : *The American Journal of the Medical Sciences; The Boston Medical and Surgical Journal; The New York Medical Record; The Ohio Medical and Surgical Journal; The New Orleans Medical and Surgical Journal; The London Lancet; The Times and Gazette, London (9 years); The American Journal of Obstetrics and Diseases of Women and Children; The Obstetrical Journal of Great Britain and Ireland; Annales de Gynécologie; Archives des Tocologie des medicals des femmes, etc.; The British Medical Journal (12 years.).* All of the "*Text Books of Medicine and Surgery*" *of the New Sydenham Society. Braithwaite's Retrospect (44 years.)*

In addition to the foregoing, every obtainable systema tic treatise on obstetrics has been consulted. Out of all this mass of literature the following references only to cases and to the subject could be culled.

1. Bard's Midwifery, 4th ed., p. 202, N. Y., 1817, contains an excerpt from "*Perfect's Cases,*" v. ii., p. 159, describing an "undeveloped twin fœtus of the size of the little finger."

2. A case reported in the Medical Repository of N. Y., 1813, i. n. s., p. 383.

3. A case reported in the Boston Medical and Surgical Journal, 1854, xlix, p. 163.

4. Dr. C. McGibbon reported a case of fœtus papyraceus in the New Orleans Medical and Surgical Journal, Sept., 1850, which grew till the 4th month and was retained till full term. *Fœtus papyraceus* born first. Other full-grown but still-born.

5. Dr. J. B. Davis, of Franklin Co., Ohio, reported a case in the Ohio Medical and Surgical Journal, Sept., 1850, where the large twin was a seven months fœtus and the *fœtus papyraceus* was about a ten weeks' product, "fresh and free from all signs of putrefaction."

6. Case in the British Medical Journal, 1869, v. i., p. 141.

7. Case reported in the Detroit Lancet, v. iii., p. 204.

8. Case given in the Chicago Medical Journal and Examiner, 1877, v. xxxiv., p. 410.

9. Case reported in the Lyon Medical, 1873, v. xiii., pp. 304–307.

10. Case reported by Paul Ruge in Beiträge zur Geburtshülfe und Gynäkologie, 1870–1872, b. i., p. 141–144.

11. Case reported in same journal, 1872–1873, ii. b., p. 94.

12. Schuster (W) Die Entstehung des Fœtus Papyraceus und sein Vorkommen bei einfachem und doppeltem Chorion. 8o Strassburg, 1876.

13. Dr. Edis exhibited a case of arrested development of fœtus in twins to Lond. Obst. Soc., Oct 3rd, 1883. One fœtus born alive at seven months, and other, expelled seven hours

before, was shriveled and its placenta atrophied, having apparently died two months before.—*Brit. Med. Jour.*, v. ii., 1883, p. 778.

14. Dr. J. R. Kirkpatrick exhibited a mummified fœtus of a twin pregnancy, gone to full term, to the Obst. Sect. of the Acad. of Med. of Ireland, Dec. 22, 1882. She had died about the sixth month. There was a single placenta and double membranous sac. "The portion of placenta which belonged to the mummified fœtus was shrunken and degenerated." —*Brit. Med Jour.*, v. i., 1883, p. 210.

15. Case reported by Dr. E. W. Kneppen, of Ligonier, Ind., in the *American Journal of Obstetrics*, v. xvii, 1884.

16. Case reported in the *Boston Medical and Surgical Journal*, Dr. R. Kingman, 1885. v. cxii, p. 12.

17. In Mauriceau's "observations sur la grossesse et l'accouchment des femmes," page 503, (4th edition, Paris, 1740), is given a case which the author attended, October 12th, 1693.

18. In "Burton's Midwifery" (London, 1751), two cases are cited, with the particulars of each are described. In one case the fœtus is described as being "compressed quite flat," and the author even presents a drawing of this fœtus papyraceus. In this rare work is quoted a case from *Johannes Daniel Geyerus*, who found in a full-term placenta "inclusum alterum filiolum ad spithamæ longitudinem."

19. A case is mentioned by Ed. Chapman, ("A Treatise on the Improvement of Midwifery," p. 66, London, 1735,) which is referred to as "an emaciated child."

20. In Smellie's Midwifery, 4th edition, London, 1768, are references to two cases of included fœtus reported to the Academy of Sciences at Paris in the years 1702 and 1729 respectively. In this book is quoted, from Ruysch of Amster-

dam (in Tom. i. oburo. 14,) the case of a surgeon's wife, delivered at term of a small fœtus, 6 hours after the birth of a strong live child. The funis of the embryo "was full of hydatids."

21. Denman, in his "Practice of Midwifery," p. 555, (N.Y., 1821,) says that a twin dying in utero "may be quite flattened or compressed into any other form" by the surviving one, and that at the last it "may be detained several days or weeks" after the expulsion of the living child.

22. Joulin, in "Traite Complet d'Accouchements," p. 757, (Paris, 1867,) quotes a case cited by Guillemau, "where the dead fœtus remained two years in the uterus after the delivery of the other twin."

(The last six cases I am able to report through the courtesy of Dr. John Bartlett, whose rare collection of old treatises on midwifery was kindly placed at my disposal.)

65 Randolph Street.

SOME CONSIDERATIONS RELATING TO SHOCK AND NERVOUS INFLUENCE IN PARTURITION. *By* HENRY P. NEWMAN, M. D., *Detroit Medical College, 1878. Chicago.*

(Inaugural Thesis read before the Chicago Gynecological Society, 17th July, 1885.)

In considering the rapid progress in gynecology and the art and science of obstetrics, and the gratifying successes attending the efforts of our foremost investigators, the unexpected and untoward results which occasionally occur in the practice of the most skillful, point us to yet broader fields for research and profit.

Several cases recently reported by such obstetricians as LUSK, PARTRIDGE and SMITH, of sudden loss of life in labour and childbed, have recalled our attention to a factor to which the former is inclined to attach much importance, and of which

he speaks under the head of nerve-exhaustion and shock, briefly but eloquently acknowledging the poverty of literature upon the subject and appealing for a more thorough consideration of its value and import.

"Twenty years ago," he says, "these two pathological states played a conspicuous part in the etiology of sudden death in child-birth. Now the fashion has changed. Such terms as 'Nervous Apoplexy' or 'Idiopathic Asphyxia' belong to an almost forgetten nomenclature. And yet, none the less, the necessity remains to account for a class of cases in which death takes place without recognizable organic lesion."

While the writer has not suffered the misfortune of cases of marked and sudden fatality, he cannot but associate many instances of distressing and protracted after-symptoms attendant upon the puerperal state, with an abnormal nervous condition, rather than any direct local lesion.

And it is to these constantly recurring examples, rather than to the phenomenal and more scattered instances of rapidly fatal termination, that we must look for more promising and satisfactory data.

With the limited time at command, and the paucity of technical literature upon a subject pertaining as much to the domain of psychology as to any material science, we submit the following three cases in practice, as additional testimony to the importance of recognizing the different phases of nerve-influence and shock in parturition.

CASE I.—On the 5th of the present month, I was called about midnight to see Mrs. H., a healthy woman of thirty-five years, mother of five children.

I found her suffering the cutting, grinding pains of the first stage of labour, which had been in progress since early evening. The cervix was dilated to the size of a half-dollar, the

membranes were intact, and the soft parts were well bathed with the usual mucous secretions.

With each paroxysm of pain, the membranes became tense, the uterus contracted moderately well and everything gave promise of the normal progress of labour.

Though apparently of strong constitution and well able to endure her share of physical suffering, I observed that the patient was greatly agitated and apprehensive, each succeeding pain having the visible effect of fretting her beyond reason, and lessening her powers of endurance.

This led me to inquire more particularly into her former history, disclosing the fact that, with the exception of the first, her previous labours, though attended by no noteworthy accident, had each been prolonged from three to five days, greatly exhausting the parturient and retarding convalescence.

The conduct of her first labour had been very unfortunate. Large and repeated doses of ergot had been exhibited, which resulted in impaction and finally forceps delivery, without anæsthesia, and badly lacerated cervix and perineum.

From the shock of such an experience the woman recovered with a very natural horror of the function of reproduction.

In the last instance, a firmly-rooted apprehension of disaster, amounting to superstition, and enhanced by the prophetic statement of her former accoucheur, that she would never live through another pregnancy, had taken complete possession of her mind.

With such a history before me, and seeing that little appreciable progress had been made in the intervening hour, I carefully examined the presenting part,—to find a possible cause of delay,—the pelvic cavity, the abdomen, vagina, bladder and rectum, with negative results, excepting that the uterus was now gradually retracting upon its contents, as evidenced by

the hardening of the uterine walls and rigidity of the cervix; further, the pain was now constant and the paroxysms more severe.

Realizing that the woman was becoming needlessly exhausted, I administered a full dose of morphine hypodermically. The effect of the opiate was a quieting of the extreme reflex irritability and great relief to the sufferer.

Living at some distance from my patient, I remained at the house until the morning. The opiate was repeated at daylight and again about six A. M., when I left, with instructions to call me when pains returned with any degree of regularity or severity.

There was no summons until six o'clock in the evening. The patient was then in much the same condition as on the previous night, and she had suffered from more or less irregular contractions during the entire day.

I determined on active measures to relieve the woman and sent for an assistant with instruments. Meanwhile, an attempt was made by the fingers alone at forcible dilation of cervix. Two hours of patient and persistent effort—using chloroform to allay pain and nervous irritability,—were rewarded by sufficient dilatation to allow the introduction of Bartlett's modified Tarnier forceps. Having ruptured the membranes, the head was grasped at the superior strait. Alternate traction and relaxation simulating nature's effort, served to complete dilation at the end of another half hour, when delivery was accomplished without further trouble.

After forcible expulsion of placenta, Credé's method, the uterus contracted fairly under a single dose of ergot. The patient re-acted well, and she is at present progressing favorably, notwithstanding the unavoidable presence in the same set of apartments of two cases of scarlatina, developed on the ninth day, and a third on the twelfth, of the puerperal state.

CASE II.—On a Sunday in December, 1883, I was hastily summoned to the bedside of Mrs. D., a frail, nervous woman of middle life, a multipara. I found the patient pale and nerveless with cold extremities, feeble, thready pulse, and perspiration standing upon the forehead.

The following circumstances were related by the husband and midwife in attendance:

Labour had been in every respect normal and had proceeded as far as the second stage, when in the absence of the husband and momentary absence of the midwife, the patient had been violently startled and labour instantly arrested, by the entrance of a sneak-thief who roughly threatened her life with drawn revolver.

Examination showed the cervix fully dilated, with the head engaged in the left occipito-anterior position.

Under restorative measures, the woman rallied somewhat from her stupor, but the uterine inertia continued and I applied forceps and effected delivery without further delay.

Credé's method and ergot were employed to expel the placenta and to insure retraction of uterus.

The patient remained in the state of partial stupor, induced by the shock, throughout the night. In the morning the temperature rose to 102° F., and so continued, with but slight variation, during the ensuing four days.

On the morning of the fourth day, the temperature was 104° F., and a very mild attack of septicæmia ensued, without recognizable local inflammation. Its duration was about one week. Finally she made a slow but uninterrupted recovery. There were four cases of scarlatina in the house at the time, three of them fatal, one in the patient's family, and nursed by her until her confinement; a circumstance which may account for the septicæmia.

CASE III.—Mrs. L., primipara, twenty-one years of age, of slight and delicate appearance, but strong, "wiry," nervous constitution, was taken in labour July 11th, 1883.

The duration of the entire labour was about eight hours; the pains of the first stage were very severe and protracted, but bravely borne.

From the rupture of the membranes, which occured prematurely, until full dilatation ushered in the second stage, the suffering rapidly increased, reaching supreme agony in the violent and uncontrollable uterine contractions, attending the stage of expulsion.

Except in the somewhat tedious process of dilatation, and the suffering induced by the exaggerated reflex nervous influence in the second stage, this was in every way a normal labour.

With the culmination of anguish and the entrance of the child into the world, the mother lost consciousness.

This was superseded by great exhaustion and pallor; nausea and benumbing of the intellectual faculties, with arrest of uterine action, compelling artificial delivery of placenta.

The shock was all but fatal, and the nervous exhaustion so complete that reaction was barely induced by the use of restoratives and stimulants.

Five or six weeks of great mental depression followed, characterized by extreme indifference to child, friends and life.

During this time she suffered from pelvic peritonitis of a severe type for one uncomplicated by sepsis.

Convalescence was very slow.

Returning to Case I, I regard it as a pointed example of the inhibitory influence of the uterine nerves of cerebro-spinal origin, interfering with the rhythmical uterine action and thereby prolonging the labour.

Such a condition demands prompt interference in the first

stage, to guard against the depressing influence of severe and protracted suffering, and the consequent dangers of exhaustion.

From the history of this case and the very thorough examination I made, I cannot entertain any theory that will account for the wearisome delay in delivery, except that of the disturbing influence of the woman's overpowering dread and nervous excitement.

The remembrance of the ordeal of her first childbirth, refreshed by frequent pregnancies, and the gossip of cronies, had engendered in her mind a morbid apprehension of the event, intensified by each period of suffering and the slow and fatiguing recoveries.

I am confident that had she been allowed to exhaust herself in the last instance, by prolonged and fruitless travail, the outcome would have been serious, taking into account the domestic situation which followed.

But of these three cases, No. II is perhaps the most striking and undeniable proof of the ascendency of mind over matter; a mental emotion of great violence actually preventing the completion of a physiological process.

In a less marked degree, I believe that the mental impressions which obtain during childbirth, strong in proportion to the intelligence and susceptibility of the individual, are etiological factors, which must be recognized in the handling of the puerperium.

The subsequent history of Case III has been a most flattering confirmation of these views.

She has been under my direct supervision during another pregnancy, and the value of the prophylactic treatment employed throughout the period, has been beyond estimate.

Having gained the confidence and coöperation of the patient, she was withdrawn as far as possible from the influences and associations which formerly governed her life.

The active intellectual exercises and artistic pursuits for which she had great talent, were prohibited, and the calm routine of domestic occupations substituted; absence from the city, during the heated term, supplied a grateful change of scene and surroundings.

Finally the mind was kept from dwelling upon the dreaded ordeal of labour by the assurance that she should be spared by anæsthesia the consciousness of an unnecessary degree of suffering.

Carrying a very large child, the latter weeks of gestation were attended by great discomfort, and the advent of labour was a welcome event.

BARUCH, in an article entitled, "Management of the Third Stage of Labour," comparing the labours of the refined city-bred woman and her antitype, the healty aborigine, makes the point that while in the latter the first stage is vigorously performed, and she seems to be ushered at once into the next, in the former the chronological relation between the two stages is reversed; owing to the predominance in the higher type of the sympathetic system of nerves in the first stage, and the more pronounced influence of reflex action in the second.

This is precisely what occurred in the case of Mrs. L.

In her first labour, representing the exaggerated type of the nervous woman of artificial refinement, the first stage was protracted and severe, and the second rapidly concluded. While in the second delivery, after the establishment of a more equable relation between the physical and psychical organizations, and calming of the nervous excitability, the stage of dilatation was short, the second more protracted and less violent.

Chloroform was administered to partial anæsthesia just before the rupture of the membranes and its use continued until after expulsion of placenta.

The entire labour occupied about five hours, reaction took place promptly.

There was not the slightest rise in temperature above normal during the following ten days.

The mental condition of the patent was tranquil and happy, exhibiting the natural and normal culmination of the process of parturition.

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In all such cases the details of prophylaxis will suggest themselves to every intelligent accoucheur, and will accord with individual requirements.

Among the most serviceable therapeutical agents in controlling reflex nervous irritability during parturition, are our list of anæsthetics, chloroform, ether, nitrous oxide, bromide of ethyl, with chloral, bromides and the opiates.

The superiority of bromide of ethyl over chloroform as an anæsthetic is urged by Dr. Montgomery, of Philadelphia, in the June number of the *American Journal of Obstetrics.*

The claims recently made for *cimicifuga racemosa*, in a paper read before this Society, by Dr. J. S. Knox, would certainly recommend its use in this class of cases as preparatory treatment.

The last two named, like every other measure which promises to facilitate labour and mitigate the extreme and unnecessary pain frequently experienced in childbed, demand fair trial.

Rich in possibilities and suggestions as is such a subject, the purpose of this paper will have been served in drawing attention to its application in the alleviating of human suffering, which in parturient women is often sufficient to dethrone reason and destroy life; and the abolition of a long train of nervous ailments and distressing reflex symptoms incident to pregnancy and calculated to exhaust and enfeeble the maternal

system; thus exposing the patient to the dangers which threaten the post-partum state.

In conclusion we offer the following suggestions:

1st. That we have a higher nervous organization presiding over the process of childbirth and subjecting it to like influences and derangements which obtain in other physiological functions.

2nd. As civilization advances, the co-relation of mind and matter becomes more intimate and complex, and calls for a proportionate advance in psychological therapeutics, and the application thereof to cases of predominant mental and nervous influences.

3rd. In many cases of so-called tedious labours the irregular contractions of the first stage are the result of an exalted state of nervous irritability.

4th. Active interference is indicated in many cases of protracted labour due to nervous influence, to guard against the dangers of exhaustion and shock.

5th. Much is to be expected from judicious prophylaxis. Especially would I urge the necessity of direct professional supervision over the entire period of gestation from the earliest months.

6th. There will still remain to be combated social, moral and educational environments, which we can scarcely expect to see abolished, until the laity, as well as the profession, is better informed as to the deleterious consequences of departure from the standard of physiological perfection in the mothers of our race, and the best means of approximating that equipoise of the mental and physical organization which it is primarily the design of nature to establish.

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ON THE DIET AND MANAGEMENT OF ARTIFICIALLY FED INFANTS.

By ADDISON H. FOSTER, M. D., (*College of Physicians and Surgeons of New York, 1866,*) *Chicago.*

(Inaugural Thesis, read before the Chicago Gynecological Society, 17th of July, 1885.)

This subject was not selected with the expectation of presenting anything original or exhaustive, nor with any attempt at scientific color, but to offer a few instances and results of experience as additional testimony to the value of the teachings of JACOBI, SMITH, and others, and to afford an opportunity for suggestive hints in the management of this unfortunate class of little patients.

The problem of infant food is one the general practitioner has often to meet and solve, under a sort of algebraic process of letting, first, this article of diet, and then that, represent the supposed factor of benefit, until the one filling the conditions of the case is discovered. This subject concerns, with others, especially those parents whose nervous and physical forces are more or less exhausted by the increasing social and business demands of a ceaseless metropolitan activity, and whose children are thereby too little endowed with that reserve vitalty so essential to sustain their nervous and physical balance.

Too often an apparently well-nourished child is a martyr to colic or persistent sleeplessness, from the imperfect breast-food of its devoted, but never rested mother, and it will be benefited by an artificial diet, never as digestible as nature's intended perfect food.

Infants, too, are not readily acclimated to the subtle, pernicious atmospheric influences of a populous city, and the conseqnent depression to their vitality demands an extra care in their diet, which the country-reared infant does not require. Neither has the city-fed infant an equal opportunity with its

country cousin in regard to its milk. It is almost impossible to get that article pure and fresh for a majority of these bottle nurslings; some of the more favored ones occasionally do, when the parents are able to keep a healthy cow for that single purpose, but it must be stalled in a large dry barn, fed on the best of hay and grain, with pure water to drink, and if it has not plenty of yard-room for open air and exercise, must be well groomed every day.

Seven years ago, it was my lot to care for twins deprived of breast milk from their birth. Their milk was from a fine healthy cow, pastured on the prairie in the west of the city: all ways and means failed to adapt the milk to their digestive organs. The cow's condition was then changed to that noted above, and in a very few days the twins were thriving well, with the aid of "Robinson's Prepared Barley," which had, with almost every other kind of infants' food, been previously tried without success. Several weeks afterwards, while they were still in good condition, a supposed mad dog bit the cow, and the parents refused to give her milk to the infants. Fresh new milk, from single prairie-fed cows, was tried with almost diastrous bowel effects. It being mid-summer, the original cow's milk was ordered, resulting in a return to their former healthy condition within two weeks.

This individual sensitiveness to different kinds of fresh milk, especially in the season of bowel disturbances, is doubtless a common experience, but the writer cannot refrain from giving additional testimony.

Three years ago, six infants were certainly saved a long and dangerous illness, if not their lives, by finding the proper kind of milk. In one instance the relatives of a prominent druggist were offended, that their usual supply of fresh milk was criticised. "It had been brought fresh from the stone quar-

ries every morning for two years." The patient of one year was a visitor, and suffering from a very intractable stomach and bowel attack. All remedies were useless when any of the prairie-fed milk was used. Finally they consented to a trial of milk brought from Evanston (12 miles distant), direct from the druggist's cow. In three days hardly any bowel remedies were needed, and a neighboring stall-fed cow was soon found, whose milk agreed equally well. In the same neighborhood, our highly esteemed friend and practitioner, Dr. John Bartlett, had exhausted nearly all his therapeutical resources upon a child in a similar condition, and had ordered it, as probably all of us have in a like dilemma, around the lakes. Through an accident to one of the family, this child's case came under my observation. The mother could not now make the trip, and the child's milk supply being mistrusted, the above cow's milk was advised, with the doctor's remedies continued. In less than a week there was no need of a lake trip: the former milk was fresh, but from the prairie. The same season a delicate babe with bowel trouble had baffled the healing art of a homeopathic practitioner for weeks—orthodox treatment under my hands was not more successful. The milk was from the cow, night and morning, but she was prairie-fed and watered. Finally the family was persuaded to go a mile for the nearest proper milk. The change for the better was not rapid, but it was marked and constant until complete recovery.

Permit one more case, illustrating a sensitive stomach: A delicate little girl of fifteen months, reared with a most untiring and scrupulous care in the details of management, was suddenly seized in March, 1880, with vomiting and diarrhœa, which could not be accounted for, until, by strict inquiry, it was learned that the cow, two days before, was fed from a new load

of hay, which was acknowledged to be of inferior quality. The child could not continue the milk until the hay was changed for the better. Unless fresh milk is of the proper quality and agrees, we often have to resort to milk-man's milk, from the various kinds of so called "Elgin Dairy." This milk, which is always at least twenty four hours old, will agree with some healthy infants, but they are very few, in my experience, and almost never without the addition of some kind of thin gruel. With any milk, for infants under three months, Mellin's food is preferred, which is more palatable and successful than Horlick's, although supposed to be identical in composition. With Mellin's food, condensed milk occasionally agrees, but condensed milk disappoints so much more frequently than ten years ago, that it is rarely encouraged, if proper fresh milk can possibly be procured. The brand preferred is the Anglo-Swiss, or that condensed in England. In this city, the gruel probably used more than all others together, especially without a physician's advice, is that from Ridge's food. This is always encouraged, and often succeeds, from the child's birth, but should be cooked longer than the directions require.

Often the indications for Ridge's food is a tendency to looseness of the bowels, and for Mellin's food, the opposite condition. Usually that food will agree best which is most palatable to the child, though if indications demand, we can produce tolerance by the stomach, by beginning with small amounts and gradually increasing that food which has the correcting qualities.

With a few babies, till after two years of age even, the only gruel or article of nourishment, with the milk, that will possibly agree, is rice water, prepared by cooking the best rice, at least three hours. The special indication for this diet is the

constant tendency to diarrhœa. In other cases it has been found as necessary to continue equally long upon "Robinson's Prepared Barley" or "Nestle's Food," "Hubbell's Prepared Wheat" or "Imperial Granum." This latter food is especially good in many cases, and with a little Mellin's food added forms the gruel now being given to three infants under my care. Oat-meal gruel is highly recommended by Dr. Jacobi, for costiveness, but it is liable, in delicate children, to make constipation more costive, or produce an aggravated form of looseness, because not eaally digested, although it often agrees with the more robust. It is necessary to use the best quality of oat-meal, which is rarely found at any of our ordinary groceries. The Akron, Ohio, brand is one of the best, and always needs to be cooked three hours at least before straining.

All understand, with Dr. Jacobi, that the gruel is partly for nourishing properties, and partly for the mechanical division of the milk particles, so that the curd shall be more porous and readily digestible.

The great aim is always so to adjust the diet, that there shall be the least possible call for drugs and medicines. In a large majority of cases, the irregularity of the bowels can be corrected by finding the proper food, and laxatives or astringents avoided.

With some infants, digestion is too tardy, and acidity with fermentation supervenes, demanding the addition of some mild stimulating aromatic tea, as that from anise seed, fennel seed or ginger, and often with some alkali, as soda or lime water, which latter has been given for fifteen months, continuously. In some cases of looseness with acidity, prepared chalk is added to each bottle of food. Half an ounce of the chalk in two ounces each of syrup and water, makes a con-

venient mixture from which to give a teaspoonful each time. In others with pain and frequency of passages green and curdy, the old fashioned "red tea" is given before each feeding. This tea consists of one scruple of rhubarb, two of bi-carbonate of soda, one of grated nutmeg, one-half cup boiling water and sugar to the taste; this can be bottled and one-half to one tea-spoonful given before each feeding.

For occasional gastric and intestinal disturbances, whether accompanied by dry, light-colored and offensive stools, or those frequent, thin, and mixed in character, some form of mercury is often used as an antifermentative and secretive stimulant. In the former condition, one-twentieth to one-hundreth grain of calomel, two to twenty-four hours apart, and for the latter, one-tenth to one-hundredth grain of mercury and chalk, two to eight hours apart, according to the condition of the case, will often improve the evacution in color and consistence. In the loose class it may be best to give the child chalk at the same time. Often derangements of the bowels are the results of too frequent feeding, as well as of too rich diet. There is little danger of too seldom feeding. When there is a crying demand for the bottle, the substitution of warm water, or some light aromatic decoction, two to three times daily, will often prevent the indigestion complications.

The more delicate the stomach, the more carefully must every condition of the food be studied, and when successfully adapted, must be maintained for months with the slightest possible deviation, excepting the gradual increase of the strength and quantity of the food, as the stomach will bear; for intelligent, faithful care in the minutest details of management is as essential as the kind of food; as probably all have seen, in the hands of one nurse, the same food threaten the child's destruction, that in the hands of another would bring strength, health and flesh.

In our dietetic repertory is found "Arend's Kumyss," which even in very young infants has proved very beneficial when given alone, or when milk is added little by little until the delicate stomach can assimilate it without the kumyss.

Peptonized milk also has proved very satisfactory in the limited number of rebellious cases dealt with, and will prove a priceless boon to many an innocent sufferer from disordered bowels. The peptonizing agent used was Fairchild's *extractum* pancreatis.

The question often arises, shall the child have the mixed diet with breast-milk, when the breast supply is limited; certainly, if the breast-milk is healthy, and agrees, for it will facilitate the digestion of the cow's milk and gruel, and keep the bowels regular and natural, but if it disagrees without the artificial food, it is not likely to agree with it.

Infants are sometimes too delicate to become nourished fully by an artificial diet, and will thrive better under daily inunctions of the best salad oil. These should be given immediately after its bath, and the bathing finished by brisk friction with the hands, moist with warm alcohol. Such infants, as well as all others in this climate, should be clothed in warm soft woolens from their birth; and should have the invigorating influence of a well lighted room of south exposure, with as much consideration as the carefully reared house-plant.

The out-of-doors question, in any but the mildest weather, is over done and under done. The puny, bottle-fed infant, kept in a furnace heated house, bears poorly the least sudden change to a cooler air, if not fully protected, or any exposure that chills it in the least, and it speedily becomes a sufferer from congestion of the bronchial or intestinal mucous membrane. It had better remain delicately well in doors, than attempt any hardening process in the cold outside, in this

capricious climate. A few moments of fresh air daily if possible is desirable, but the child must be well wrapped, and the wraps not removed too soon after coming in.

A few conclusions on the foregoing are these:

1st. The artificially fed city infant too often inherits an enfeebled nervous and physical organization.

2nd. Its surroundings are rarely of an invigorating character.

3rd. It usually has a desperate struggle for life with an imperfect diet, for even new milk from the prairie-fed Chicago cow is likely to be harmful.

4th. The wonder is, that so many escape death at the hands of over-anxious but unwise attendants.

132 La Salle street.

SYZYGIUM JAMBOLANUM, (JAMBOL.)*

By C. E. CLACIUS, M. D., *Chicago.*

A new drug was mentioned in the *London Lancet* some moths ago under the above name, the bark and seeds of which were recommended as a powerful remedy for diabetes mellitus. It was called a stomachic, carminative, diuretic and astringent. The powdered fruit-stones to be taken in five-grain doses three or four times a day.

From an acquaintance, a diabetic, for whom the writer, during several years, had analyzed the urine and invariably had found from eight to twelve per centum of sugar, the writer received a few weeks ago a portion of urine for examination, with the information that the patient had, for a week before,

*The fruit of Syzygium Jambolanum, natural order Myrtaceæ, indigenous in the East Indies.

The fruit is fusiform, about fifteen (15) milimetres long, ten (10) milimetres thick, very hard, brownish-black, astringent, aromatic. In powder it reminds one of pepper in odor. It has been recommended for the elimination of sugar from the urine.—*The Pharmacist.*

used a new remedy, an Indian plant, with such remarkable effect, that he wished to have his curiosity, about the quantity of sugar, gratified.

The urine showed a natural color and smell, had a specific gravity of 1036, and contained no sugar. A few days later the gentleman called in person, and brought with him a small quantity of bark and seeds, which he had obtained directly from London, through the *Lancet*, and reported that during eight days he had taken a decoction of the seeds, corresponding to about half an ounce. Before commencing to take it, his urine had the specific gravity of 1040 to 1042, and he was troubled with a constant dull headache in the occiput. He had to urinate from three to four times a night. The quantity of urine voided was six to eight pints in twenty-four hours. After a week's use of the remedy his headache had disappeared; his sleep was undisturbed, and the quantity of his urine had decreased thirty per centum, and there was no trace of sugar in it. The high specific gravity was caused by a concentration of urea, urates and phosphates in the lessened quantity of fluid. Further observation about the permanency of this favorable change could not be made, as the gentleman left for a European tour a few days later, but he was so elated that he requested the writer to experiment with the drug which he brought, on other patients with the same disease. This has been done, and the result is herewith submitted to the profession for judgment and further investigation:

No. 1. Gentleman, aged seventy-one, suffered from disease since 1880, to his knowledge; then, increasing debility, thirst and flattening of the eyes, more than the large quantity of urine voided, induced him to seek medical aid. The skimmed milk diet, strictly followed for three months, removed the alarming symptoms; after that time he added so-called gluten

bread, meat and claret, and felt quite comfortable, although he voided from three to seven pints of water in twenty-four hours, which varied in specific gravity between 1030 and 1040, and in sugar, between eight and twelve per centum. The writer made occasional analyses through all those years. To this patient thirty-two powders were given, each containing five grains of the powdered seed.

The analysis made before he commenced on them showed specific gravity of 1036; sugar, eight per centum. Eight days later, after having taken four powders each day, there was a decrease of twenty-five per centum in the quantity of urine, and in this decreased quantity the sugar had decreased from eight to six per centum, and he was not disturbed during the night. After another week, the same dose of the drug caused another reduction of ten per centum in the quantity of urine, and of sugar down to four per centum, and caused, besides, an inexplicable invigoration of the whole system, so that he ventured to, and was able to drive a spirited horse, which he would not have thought of attempting to do two weeks previous to that time. After a third week, the quantity of urine amounted to from thirty-five to fifty per centum of that passed before the medicine was taken, and the sugar in it to only three per centum.

No. 2. Gentleman, aet 47. Had diabetes for four years, but never very bad. He does not know how much sugar his urine contained during those years. He voided from five to seven pints in twenty-four hours, of a gravity of 1036. He suffered more from the inconvenience of keeping up a diabetic diet than from the symptoms of the disease, excepting the necessity of having to urinate two or three times during night. Before he commenced taking the drug, the gravity was 1036, the amount of sugar was six per centum. After three weeks, the specific gravity was reduced to 1030; the amount of sugar

to three per centum; the quantity of urine to four pints, and for the first time in many years he passed a night without urinating. This patient had partaken of potatoes and sweetmeats during the latter two weeks. He likewise reports a marked improvement in his general feeling.

No. 3. A physician, in the prime of life, not a bad case of diabetes, of the intermittent kind. The urine passed during and after the hours of rest contained sugar amounting to four per centum, while that passed during and after the hours of bodily and mental activity and strain was free from sugar. The effect of the drug on this patient was the same as on the others; the quantity of urine, its specific gravity and its percentage of sugar were constantly reduced. At one time he thought he had to reduce the daily dose of twenty grains of the drug to ten grains, for fear of reducing the quantity of urine too much.

The limited amount of the drug on hand permitted of no further experiments, but the uniformly favorable results induced the writer, several weeks ago, to send to London for a supply, which is now due and daily expected. He would have waited for its arrival, and perhaps investigated a little more, before communicating this limited experience, but the fact that he is soon to remove to and permanently locate at Los Angeles, California, prompts him to bring these limited experiments and their results to the knowledge of the medical profession, and to ask the members of it to continue the investigation, whenever an opportunity is offered.

The action of the drug seems to be direct on the nerve-centers, and if such is the case, its beneficial effects is probably not limited to diabetes mellitus. The seed and bark of the plant Syzygium Jambolanum were recommended. The writer had a sample of each; of the bark he made a tincture,

tried it, but found its efficiency almost null. The seed, or fruit-stones, appear to be of a gum-resinous nature, and as the dose is small and the taste not disagreeable, he gave the powdered seed; the quantity on hand being too small to justify risky experiments of extracting them with various menstrua. When freshly pulverized, the seeds issue a delicate pepperlike flavor, to preserve which it may be advisable to dispense the powder in gelatine capsules.

The drug will be kept, after its arrival, at the store of Messrs. Vaughn & Sawyer, Apothecaries, 322 West Madison Street, Chicago.

REPORT OF CASE OF LEIO-MYOM OF VAGINA AND UTERUS. *By* HENRY T. BYFORD, M. D., *Chicago.*

(Read before the Chicago Gynecological Society, 19th of June, 1885).

The patient was a widow, about 35 years old. She was married ten years without becoming pregnant. She had no decided symptoms of disease except an occasional backache and some leucorrhœa, and frequent menstruation. She was treated for uterine inflammation a short time previous to her husband's death, three years ago, without any tumor being discovered. Since then she has menstruated every two weeks and gives over-exertion at the time of his death as the cause. The flow lasted five days and each time nearly the same in quantity as the monthly flow always had been. Twelve years ago she noticed a tumor about the size of a hickory nut just inside of the vagina. This had since been steadily growing, until its protrusion from the vagina, about Jan. 12th, '85, and had caused her no trouble. Even at that time the pain was promptly relieved by two or three doses of an opiate administered by Dr. Doering, who first saw her. Within two or

three days, a black spot appeared upon its distal end. In a week's time the whole tumor was swollen, black and emitted a gangrenous odor. Being unable to persuade her to have the growth removed, I cauterized it every two days with strong carbolic or nitric acid, and surrounded it with cotton dipped in carbolated oil, but I did not succeed in preventing slight septicæmia. As the capsule sloughed off, and left healthy tissue underneath, I attempted to cut off the tumor gradually, by silver wire drawn tightly about its base, twisted as tightly each day as she could easily bear. After this cutting half way through, I found that the parts had united behind the advancing wire. Having thus accomplished no good except to contract the whole pedicle from about two inches to a little over one inch in diameter, I removed the wire and refused to do anything more for her until she consented to submit to an operation for its removal. A few days later I slowly crushed the tumor off under anæsthesia, and applied iron to the stump to check the oozing which occured from innumerable points. Only one arteriole was found requiring ligation.

Upon examination of the uterus two weeks afterwards, the sound entered to a depth of three and one-half inches, turning a little toward her left side. Upon the right anterior corner of the uterus a protuberance about the size of a goose egg could be felt.

Her present general condition is good. She had an attack of menorrhagia a week after the operation, which was two weeks after previous menstrual period, and has had one every three weeks since. She is taking one-half fluid ounce each, of Squibbs' fluid extract of ergot, and extract. gosspii radicis. On examination, May 14th, the uterus seems a little smaller and menorrhagia not so profuse.

I note the following points of interest :

1. The occurrence of both tumors in the same person.

2. The slow growth of the vaginal tumor as compared with the uterine.

3. Sloughing of the capsule right after protrusion from the vagina without impairment of the vitality of the tumor proper.

4. Entire absence of sensitiveness to strong acids.

5. The production of a pedicle by ligation of the proximal end with a fine wire.

6. Sterility antedating the discovery of the uterine tumor.

7. The dating of the active growth of the tumor from the time of her husband's death.

8. The influence of ergot upon the uterine tumor.

125 State Street.

TOO-OFTEN FEEDING AS A CAUSE OF DISEASE IN INFANTS, AND A PROTEST AGAINST ONE COW'S MILK.

By A. E. HOADLEY, M. D., *Professor of Anatomy, Chicago College of Physicians and Surgeons.*

(Read before the Illinois State Medical Society, at Springfield, May 20th, 1885.)

In the first years of my practice I was sorely tried by that class of infantile maladies which depend upon improper food, artificial or natural, and improper feeding; which diseases constitute by far the greater number of affections from which infants suffer and die.

I lost confidence in therapeutics, as I could get but negative results; and the various kinds of food and schemes of feeding alike disappointed in the majority of the well-defined cases of indigestion or mal-assimilation, diarrhœa and vomiting. They continued to vomit, purge, pine and die, in spite of all the elaborate and scientific preparations, prepared in accordance with the most approved physiological laws. In looking over the ground, it did seem as though there could be nothing want-

ing to properly nourish, and that without disturbance, the little infant, who at birth was absolutely perfect and healthy.

Still something was wrong, so I began a systematic inquiry to discover the error, and I very soon found that there was great discrepancy of opinion as to how often a young infant should be fed. Some affirming that four times a day and once in the night was enough, while others advocated feeding often, claiming that a healthy baby would not take more nor oftener than it required. The weight of evidence was in favor of feeding a sick baby, and especially a baby troubled with vomiting, very often and in very small quantities, every one having a favorite combination of food and therapeutics. Here was the error then, and I have by years of patient attention to the subject, proved to my perfect satisfaction that too-often feeding is a greater cause of disease than improper food, and since I have been of that opinion, putting precept into practice, my confidence in therapeutics has been restored. I can now as surely get the desired results from medication when it is indicated, in the infant as in the adult. I said, too-often feeding; I do not by any means wish it to be understood that I am an advocate of long intervals between feeding. On the contrary, I believe the intervals should be as short as possible, allowing sufficient time for the perfect digestion of the previous meal. The time may vary according to the food employed and the quantities taken; but when the shortest time in which a meal can be digested is fixed upon, that should be the minimum interval of time allowed to elapse between feeding, allowing the infant to go a longer time if sleeping or quiet; but under no circumstances should it be allowed to partake of food oftener. Now, what is the common practice? In nine cases out of ten, a baby is nursed or fed every time it cries, even though the crying is induced by an already over-distended stomach.

Some babies save themselves from worse results by promptly vomiting the excess of milk, retaining sufficient to perfectly nourish them, and therefore thrive; while others develop a condition of indigestion amounting to positive dyspepsia, and food induces pain on entering the stomach. Gastro-enteritis, entero-colitis, and a large number of the wasting diseases are induced by this one thing of feeding an infant so often that it cannot digest its food, thus causing mal-assimilation and all of its baneful consequences. The larger number of the diseases thus produced can be cured by simply removing the cause; that is, feed at regular intervals, say once in two hours or longer, but in no case oftener. I have repeatedly seen infants with moderate vomiting and diarrhœa, recover from both promptly and without medicine of any kind from simply regulating the time of feeding without making any material change in the food. I will cite two cases out of many thus treated.

CASE 1st Male baby, age three months. Well nourished and apparently perfect at birth. Mother's milk was found to be insufficient at the close of the second month. Cow's milk was added and occasionally some farinaceous diet, previous to which time the baby was nursing the breast almost incessantly; but as the milk was scanty there was no disturbance. With the addition of the new diet there came a disturbed condition of the bowels, consisting of frequent passages of undigested lumps of curd or caseine, some mucus, streaks of green, sometimes small, at others large and watery. Paregoric was used occasionally in suitable doses to control the diarrhœa. This condition continued with gradually increasing severity, until vomiting was added as a symptom of the deranged digestion.

At this time my attention was called to the case. The child had been vomiting for two days, and now had reached a point where it threw up everything that it took into its stom-

ach, and it would take anything with avidity that was offered to it. There was as yet no fever, but restlessness and a flabby and shrunken condition of the tissues.

The course of the disease thus far had been very gradual, and there was not as yet any lesion, no positive pathological condition, being simply a deranged function. To remove the cause would be to successfully treat the case.

"How often do you feed this baby?" I asked.

"I feed him all the time, you might say, for he is never quiet unless he is eating," was the answer.

I tested the cow's milk with litmus paper and found it sour, although it was just milked from a select cow kept in the city close at hand. Ordered two teaspoonfuls of lime water to be added, to neutralize the acidity of the milk, and that it be fed to the baby every two hours, and, under penalty, no oftener.

As might be expected, the first was vomited, and the little sufferer had no alternative but to thirst and starve and cry in consequence, for two long hours, when he was again fed three ounces of milk with two teaspoonfuls of lime water added. This was taken with relish, and retained for about one hour when a part of it came up. This was the last time the baby vomited, and in three days the passages were normal in all respects, and the baby was "the best natured little darling you ever saw."

Did the lime water do it? I think not, inasmuch as they had been using lime water all the day before, and for several days had been administering pepsin with a view to correct the already recognized condition of indigestion.

The lime water was dicontinued, and its diet, consisting of cow's milk, crackers and oatmeal, with breast milk at night only, was continued under the new regulations, and the child has remained well until the present time, three months, and

has resumed its usual plumpness. In this case the mixed diet of sour cow's milk, etc., might be assigned as a good cause for the severe derangement of the stomach and bowels; but upon instituting regularity of feeding, the patient did well without change.

On the other hand, if the diet had been changed and the pernicious practice of feeding all the time continued, it is my conviction, derived from sad experience, that it would have been simply a question of constitutional strength against a constant irritant, assisted perhaps by therapeutics.

CASE 2nd. A fine healthy baby at birth, female, well developed and well nourished. The mother's milk came early and in abundance, and from ordinary examination seemed to be of excellent quality. The baby was inclined to worry some from the first; was supplied with this best of all nourishment in abundance, and nearly all the time, except when asleep, for the purpose of keeping it quiet. She would vomit a part of nearly every meal, and then nurse again. At the end of six weeks she began to have frequent bad passages from the bowels, which were followed by vomiting in good earnest, with straining and gagging and great distress. At this stage I prescribed that the baby be put to the breast once in two hours, and at first be allowed to take but a small quantity, and when vomiting ceased to take as much as she would, instructing the mother to take the baby away from the breast as soon as she began to play with it.

This baby recovered promptly, and in less than a week had forgotten its bad habits. These cases were thus treated for the purpose of demonstrating that too-often feeding was the cause of the attack and not because other remedies would not be serviceable. On the contrary, therapeutical agents give the most gratifying results when combined with the above plan of regular feeding.

In this connection I wish to enter a protest against the popular practice of recommending one cow's milk for babies. This may be judiciously done in the country, but in towns, and especially in the larger cities, there are so many objections to the practice that it is fraught with danger to the little ones.

The selection of the cow is rarely if ever made by the physician; he cannot devote the time necessary to inspect cow-sheds and cows and examine the milk and look for possible causes of irritation and infection; the selection is usually made without the advice of the physician, and when his attention is called to the fact, the following are some of the reasons why he should not assent: the cow may be too old or too young, may have been milked too long or not long enough, since she calved. This time should nearly correspond to the age of the child to be fed. The milk may be extremely rich in butter or casein or both, or very poor in these constituents, as cow's milk varies in its quality to a greater degree than human; or the milk may possess some peculiarity of its own, which will by slow degrees injure the child. Furthermore, the manner in which town-cows are kept and fed exerts a pernicious influence. They are usually fed all the available garbage, which is mostly rotten, and refuse of the kitchen, and still-slop, which is next to garbage in cheapness and only one degree less objectionable. They are, as a rule, kept in low, damp and dark sheds or stables, without exercise, from the time of heavy frosts in the fall until grass starts in the spring. A large proportion of them are not provided with hay or straw for bedding, or dry bedding of any kind. They are compelled to lie down in their own liquid excrement, in which their bags and teats macerate until they become covered with sores. The filth adheres to their bodies, except shoulders and back, forming a hard crust, which only falls off in the spring, taking the hair with it, leav-

ing the skin naked, which is frequently covered with little sores or marks where sores have been. Some of these poor animals can scarcely face the daylight when first turned out to graze, owing to their long confinement in the dark. They are so weak that it is with great difficulty that they can get up alone, and very frequently it becomes necessary to assist them to rise. They will tremble all over after walking a mile when they are first driven out to pasture. Still they will retain a fair degree of flesh, and there are but few deaths, their food being sufficient in amount but bad in quality. Is this condition of things conducive to the production of good, health-giving milk? I think not. On the contrary, I believe that milk from such sources has been the direct cause of irremediable disease. This condition of things is so common in large towns, that one cow's milk should be regarded with suspicion and not countenanced until it can prove a good character. In the summer-time, town-cows are over-worked, going to and from their pasture lands; and to compensate for the meagre supply of grass that prevails, they are fed as before on garbage and still-slop. As a result, they give sour milk the year around. The milk of stall-fed cows is apt to be acid in its reaction, but it is always markedly so from town-cows, unless they are fed exclusively on grass and that within easy distance.

On the other hand, it is only necessary to say that at the country milk dairies, the chief source of city supply, everything is done that will tend to the comfort and well-being of the cows. The dairy-men know very well that all extras are more than paid for by a greater yield of milk. The facilities for rapidly cooling and shipping the milk are perfect, so that towns and cities are supplied with morning's milk, which is produced under the most favorable circumstances, within two or three hours from the time it is milked. This milk is han-

dled in eight gallon cans. Each can-full represents the milk from eight or ten cows; the quality must therefore average good in all respects.

In about twenty tests made with litmus paper by myself, at various times, and of milk from different dealers, it has proved to be neutral in its reactions. Should there be one cow that produced poor milk, its influence could not be very detrimental to a child, if mixed with that of eight others. Again, the chances would be a hundred to one that it would not get the same cow's milk two days in succession. It is therefore impossible for any vice to be long continued through milk delivered from a country milk dairy, except that vice be derived from bad management in the care or transportation. The chances of such contamination are reduced to the minimum as compared with one cow's milk.

Every first-class milk peddler is willing to supply his customers with the unadulterated and unskimmed morning's milk for seven cents a quart. The night's milk, after suffering various degrees of skimming and the blue color removed by a small quantity of burnt sugar, is sold by the grocers for from two to five cents a quart.

QUADRUPLE PREGNANCY. *By* M. ARTHUR, M. D., *Waverly, Codington County, Dakota.*

I take pleasure in reporting a case of quadruple pregnancy that has terminated happily.

At six A. M., July 3rd, I was called to see Mrs. D. R. Barnett. I found her greatly enlarged, with extreme œdema of the feet and legs. Labor had commenced four hours before Pains were frequent and regular, the os dilatable, with a vertex presenting, liquor *amnii* had not passed. After rupturing the sac, labor progressed more rapidly, and about eight o'clock

a female child was born. The pains continuing, I examined again and discovered a breech presenting also in the unbroken sac; shortly after rupturing this a male babe was delivered. Much to my surprise the pains continued, and after caring for the second child I examined again, finding another vertex engaged and also in its own sac. This I could not rupture in the usual manner, with my finger, but had to use a pair of blunt scissors. In fifteen or twenty minutes, a second female babe was safely delivered. I thought surely this was enough, but no, the pains continued constant and strong. Thinking it must be the placenta, I cared for the third babe before examining. When I was ready, I discovered a second breech presentation, this also in its own sac. This sac I had to rupture as the previous one, with the scissors, on account of the toughness of the membrane. In about twenty minutes the second male, or fourth child, was delivered, but apparently dead and bloodless. However, after working over it for about ten minutes, respiration and circulation were well established. I delivered the placenta in fifteen or twenty minutes after the last child; it was in one piece and very large, although the union of four placentæ could be distinctly seen with their four cords attached.

The babes weighed in the afternoon of the same day twenty-one and a half pounds in all. The girls 5¼ pounds each and the boys 5½ pounds each. The mother and children are all progressing finely at the present writing, the babes being nursed on the mixed plan.

The parents are Scotch, coming to this country three years ago. They have five children previous to the late addition, one of which is Dakota born. The lady is 35 or 36 years of age, medium size and has been robust.

EDITORIAL.

THE INTERNATIONAL MEDICAL CONGRESS OF 1887.

It is generally, if not universally, conceded that the prospect of having a successful congress of the medical profession in Washington in 1887 has been materially impaired.

At least three causes have contributed to this result.

The first, probably, rests with the original Committee of Arrangements, that did much of the work assigned to it remarkably well, when it is considered how great and how varied that work proved to be.

The original seven members of that committee, with the President of the American Medical Association added, making eight, were authorized by the American Medical Association when their appointment was made, to add to their number, in case the invitation which they were delegated to extend to the International Medical Congress that was about to convene in Copenhagen, should be accepted. The committee acted upon the authority which had been delegated to it, and added the names of many able and representative men in different sections of our country to the committee. Thus enlarged, the committee proceeded to make a preliminary schedule, which embraced the names of physicians eminent in the different departments to which they were assigned, many of that number having international reputations. Most, if not all, assigned to these positions accepted them, and began preparations for the work for which they were chosen. The

committee then issued the schedule, which it had arranged, just before the last annual meeting of the American Medical Association. As this Association had been recognized by the medical profession of America as its representative body, and it had been requested by eminent members of the profession of our country to ask, *on behalf of the medical profession of America*, that the next triennial International Medical Congress might be held in Washington, it was not unnatural that the Association expected that the Committee of Arrangements, that it had empowered to act, and for whose acts as its appointees it became in a measure responsible to the profession at large, to report to it, officially, the acceptance of the invitation that had been given, It was right that a report should be made to it of the work which had already been done by the committee, for its approval or modification, before distributing the schedule at home and abroad. No doubt that distribution was made with the best of intent, and in the belief of its correctness, but that it proved to be unfortunate and impolitic is more than likely.

Another mistake is believed to have been made by that committee in so limiting the number, in their additions to the original eight, that several important official positions had to be assigned to single individuals, when it is claimed that additional and equally eligible and equally capable men in the profession might have been added to the committee and assigned to some of the multiple offices given to a relatively large proportion of residents of the Atlantic slope of the Alleghanies. Whilst geographical considerations alone should not decide selections for representatives in a scientific body, yet as the invitation was that of the whole profession of America, the American Medical Association having only been asked to become sponsor for it, it was but right that due regard should

be had to locality after professional qualifications had been, first, duly considered. It is not improbable that more liberality of views in this respect on the part of a portion of the committee, would have secured more harmony and more cordial coöperation. However, the fact should be kept prominent that the contemplated congress is designed to be, as all its predecessors have been, international in its broadest sense. Although the medical profession of America and, as representing it, the American Medical Association, stand as sponsors for the next congress, and, in a certain sense, as host for the foreign members who have been invited, yet all the arrangements should be catholic, in the best sense of that term, and that in no sense can the congress be, nor should it be, controlled either by the American Medical Association or by the medical profession of America.

The next mistake was made by the American Medical Association at its meeting in New Orleans. Whilst granting to it the right to review, to criticize and even to amend the acts of the committee that it had created and empowered to act for it, and granting still further that it had a right to add to its committee, it is not clear on what grounds it ignored the right of the original committee of eight to add to its number, after having distinctly authorized such addition at its annual meeting the year before. It did not claim that the members added by the committee of eight were not capable and representative men, but it made the unfortunate and impolitic mistake of introducing a local ethical question into an international scientific body, that ignores all such questions, and places science and philanthropy above and beyond ethical creeds.

This led to the result that able and representative men were deposed, and even if their places have been filled by equally capable men, the effect upon the prospects of the congress

has been very serious. It enlarged its committee of arrangements—a privilege that, it is conceded, it had a right to exercise—but at the same time it eliminated from that committee those members whom the original committee of eight had, by the authority conferred upon it, added to its number, and who thereby became as much a part of the committee of arrangements as the original eight members themselves. This was unnecessary, unjust, and wrong, and it is but charitable to suppose that in the haste and the heat of discussion, the wrong was, unintentionally and without due thought, committed. If so, the mistake should be corrected by inviting those so excluded to resume their places with the other members of the committee, which should then consist of the original eight, the members that those eight added to their number, and the additional members which the association selected at New Orleans. It is true that some of the original eight have resigned the task they had undertaken. Under all the circumstances it may not have been unnatural that they should have done so, viewing matters from the stand-point of self; but in view of the fact that they presented the invitation that was accepted; that they pledged the best efforts of the profession of America to make a success of the next congress, from a professional, a scientific and a social stand-point, they should not have been among the first to abandon their posts. They should be invited to resume their places on the committee, and they should accede to that request. The question is no longer one of personal preference or personal taste. Our faith as a profession has been pledged, and we are in honor bound to make good our pledge. We have a right to expect that those who were foremost in asking the medical profession of the world to come to our shores will not be foremost in abandoning their posts of trust, because others, as well as them-

selves, have made mistakes. That some unfortunate selections have been made by the American Medical Association is apparent, but it is as true as ever, that two wrongs never make one right.

The third contributing cause seems to lie with the committee of arrangements, as at present constituted.

The persistency with which, it is alleged, it thrusts the question of local professional ethics forward, is alienating the foreign members of our profession whom we have hoped to see among us, but who are declaring that they see, in this most injudicious wrangling, evident signs of failure of the congress, unless this discord should end and the course be adhered to which has characterized each congress that has so far been held.

Although but one meeting of that committee has been held, and the details of its future plans have not been fully announced, yet such intimations have gone forth as to have had a very unfortunate effect upon a large proportion of prominent men in the profession in our country, who by their hasty and, perhaps, injudicious course are further embarrassing an honest effort on the part of the mass of the profession to make good the faith pledged at Copenhagen, and to save the good name of our country from the disgrace, and to avert the obloquy which failure to meet the expectations that we have raised abroad must bring. It seems incomprehensible that men, who have fairly won distinction in the profession of medicine, should be found banding themselves together in a manner suggestive of trades-unions, and placing impediments in the way of making a success of a scientific and philanthropic congress. Most careful sifting for reasons for such course fails to discover other than the fact that the American Medical Association has exercised a right, that it clearly possessed, to revise the work

of its committee; that it did it in an obnoxious way; that it thrust and, through its committee, it continues to thrust, a question of local professional ethics into a scientific body, to its great detriment, and that it has placed in prominent official positions a few men whom the profession of the country are unwilling to regard as representative, and who are obnoxious to, at least, one of the factions in this unseemly wrangle.

If, for argument's sake, it be granted that these positions were well taken, does it follow that the course taken by these disaffected members of the profession is justifiable or that it will bear reflection. Can they, for such reasons, afford to invite disaster in a cause in which the good name of the medical profession of our country is involved? Would it not be much more to their credit that they should be found in the ranks, striving to preserve our name untarnished, rather than to be surrendering the field, at the first skirmish, to those whom they are unwilling to acknowledge as their peers?

The only practicable solution of this most unfortunate dilemma seems to lie in an abandonment of a rule-or-ruin policy, and recognition of the mistakes made. This would prepare a way for honorable compromise and bringing together all who have been appointed to arrange the preliminaries essential to the proper opening of the Congress.

Good faith requires that an honest effort should be made to do the best that is possible, under these embarrassing circumstances, to make a success of the proposed congress. If failure and disgrace result, let the responsibility rest where it properly belongs, and let it be admitted that American physicians showed their lack of capacity to make good their promise, and to organize a congress, after having repeatedly expressed a desire to have their country honored by selecting

it as a place for its meeting, and after having extended a formal invitation and having had it accepted.

Then let the shame be confessed, and, in fitting acknowledgement of their unworthiness to participate, let Americans, thereafter, absent themselves from every international medical congress that may be held.

EX PEDE HERCULEM.

That was an exceedingly dull person, says DR. HOLMES, who made the remark, *Ex pede Herculem.* He might as well have said, "From a peck of apples you may judge of the barrel." We are told that CUVIER constructed a megatherium from a tooth, that LEIDY and AGASSIZ drew portraits of undiscovered fishes from scales. An interesting psychological problem is presented to us by an editorial, entitled, THE RUMP CONGRESS OF 1887, appearing in *The New York Medical Journal*, of 11th July, 1885, and containing statements, which deserve to be recorded, as revealing the animus of the *Journal's* action with reference to the NINTH INTERNATIONAL MEDICAL CONGRESS. An extract of the editorial reads as follows:

"And all this disgrace is the logical outcome of the false and artificial issues which for the past three years have enabled men in no way representative of the profession to masquerade as its leaders, through the medium of that degenerate and utterly ridiculous concern, the American Medical Association. That organization long ago ceased to work for the benefit of the profession, and for a number of years past its annual meetings have been little more than sources of the most shameless intrigue and demagogism."

It is the old story of "No case; abuse the plaintiff's attorney."

Of the actual facts involved in the case, our esteemed con-

temporary ought to be fully cognizant. If he is not, his attention is invited to an editorial, appearing in *The Journal of the American Medical Association*, 25th July, 1885, which states three important truths, which must be clearly and distinctly borne in mind.

"(*a.*) That the American Medical Association is the only organized representative of all departments of the profession in the United States; (*b*) that the Committee of Invitation with all its powers and duties was simply the instrument or agent appointed by the Association to perform certain acts or duties; and (*c*) having appointed such agent and invested it with certain important powers, the Association was, by the fundamental principles of parliamentary law as well as by the dictates of common sense, itself responsible to the medical world, both for the character of the agent or committee, and the manner in which it should discharge its duties."

Possibly, while our valued *confrère* has been in possession of the actual facts involved in the case, he has been unable to arrive at a logical conclusion.

In such event, it is suggested that the study of PROFESSOR JEVONS'S excellent little treatise on "*The Necessary Laws of Thought*" might be attended with benefit to himself, and advantage to his readers. It seems probable, however, that the pitiful begging of the question upon the part of the *New York Medical Journal* is not due to ignorance of the facts involved, nor to the incorrect application of logical processes.

In seeking a solution of the problem, may not the following words of a great physician, and a shrewd observer of men, throw some light on the subject:

"A mixture of a lie doth ever add pleasure. Doth any man doubt, that if there were taken out of men's minds vain opinions, flattering hopes, false valuations, imaginations as one

would, and the like, but it would leave the minds of a number of men poor shrunken things, full of melancholy and indisposition, and unpleasing to themselves."

Whatever the motive of our journalistic brother may have been,—whether ignorance of the facts involved in the case, defective knowledge of logical processes, or that unfortunate moral obliquity, consisting in incorrespondence of the subjective with the objective order of the phenomena,—his temerity, in deliberately offering insult to every member of the American Medical Association excites surprise.

As a commercial venture,—and we are compelled by the *Journal's* open advocacy of the propriety of consultation with irregular practitioners, that considerations of pecuniary return constitute the basis of professional ethics,—it must prove a failure. Neither will the imposing publishing house of Bond street, nor its exponent, the *Journal*, reap material reward. Surely, every member of the American Medical Association will bear this sentence in mind, in the future, remembering the words of O. W. Holmes, that "As the 'O' revealed Giotto,—as the one word '*moi*' betrayed the Stratford-atte-Bowe-taught Anglais,—so all a man's antecedents and possibilities are summed up in a single utterance which gives at once the gauge of his education and his mental organization."

DOMESTIC CORRESPONDENCE.

TO THE EDITORS OF THE *Chicago Medical Journal and Examiner.*

Gentlemen:

In a late visit to an old New England town, I came across this letter, which you see takes us back a hundred years.

It was in possession of Dr. W. G. Perry, whose family has been known in the medical profession since 1815. His father, now at the advanced age of ninety-six, is the oldest living graduate of Harvard University, and has practiced in Exeter, New Hampshire, for more than sixty years.

Thinking that these words, coming to us from other generations, about one of our most valued medicines, might not be uninteresting to your readers, I place them at your disposal.

Respectfully,

CHAS. GILMAN SMITH, M.D.

125 State Street.

DIGITALIS.

BIRMINGHAM, 27th, Oct., 1786.

Sir:

Your letter of February 9th, arrived here in due time, and the seed of the Digitalis purpurea which accompanies this, will show that I have not been inattentive to your request. I send much more than will be necessary for your own use, in the

hope that you will distribute it into other provinces, and you can transmit some to my friend S. Jones in Virginia for the same purpose. Mr. Cutler, in the memoirs of the American Academy of Arts and Sciences, printed at Boston 1785 and now before me, gives in his account of indigenous American vegetables, page 465, the Linnæan character of the Digitalis purpurea and supposes it a native of that part of America; but I have reason to believe that his species is not the *purpurea*. Perhaps you may have an opportunity of sending him a few of these seeds and please to mention my suspicion to him.

It has been remarked that in cold countries the sedentary and the intemperate are particularly the victims of disease, and the diseases which attack them are I think mostly such as arise from debility. If the kind of them you mention be really more unwholesome than that we have from the West Indies, it must be from some combination with the ardent spirit, though I am inclined to suspect that the intemperate use of Spirits, as such, will occasion the disorders you mention. If, however, the New Rum distilled from the molasses be, as you believe, more deleterious than such as we use, and that deleterious quality abates by keeping, we must suppose its melioration is caused by the separation of the hurtful impregnation. The noxious part I believe to be sometimes Lead, and sometimes an essential oil. The oil escapes in time, and I know the Lead will be precipitated by the astringent extract the spirit gets from the casks, but I never have been satisfied whether the Lead is held in solution by an oil or an acid; probably by the latter, for we find the corks of Rum bottles become rotten. If you suppose, with me, either with or without glandular disease in the abdomen, may be caused by want of action in the absorbent vessels and too great laxity in the exhalants you will readily conceive how the inaction

must follow the repeated use of strong stimulants, such as ardent spirits, essential oils, or both combined. Nor will you be at a loss to judge why a cold climate and an inactive life should aid the formation of the disease. I should attempt in your dropsies to evacuate the water by the Digitalis and to prevent its repeated aggregation by frictions, exercise, flannel shirts, and other warm clothing, and should also call in the aid of aromatics, steel, and sometimes mercury.

I am more and more convinced that the Digitalis, under a judicious management, is one of the mildest and safest medicines we have, as well as one of the most efficacious. It is, I believe, *never* necessary to create nausea or any other disturbance in the system. I never now use more than ʒi fʒi to fʒss of infusion and in substance rarely exceed 3 grains in 24 hours.

An account of your tryals with this medicine will be highly grateful to me, and fully recompense any trouble you have given me.

The experiments in the freezing of Quick silver were extremely well conducted, and correspond sufficiently with the most accurate accounts we have had from other quarters. I read them to a Society of Philosophic friends in the place, and they met the approbation of all. Reason and Philosophy are making rapid strides in every quarter of the globe to emancipate and to enlighten mankind. We cure our Intermittents of every kind by a solution of white Arsenic in water, 1 grain to ʒi; dose, 25 or 30 drops, 3 times a day, in 6 or 8 ounces of Gruel or Barley water. In or out of the paroxysms we go on, until the disease is stopped. The cure is then to be finished with the usual tonics. Under proper management it produces no sensible effects.

I must beg you to accept my grateful thanks for the opin-

ion you are pleased to entertain of me, and to believe me that no one is more happy to promote the spread of science than your obliged and very,

Obdt! Servt!

W. WITHERING.

The new Botan. arrangement will not be out sooner than the beginning of next summer. Digitalis has cured two other cases of insanity in this neighborhood and 3 cases of Haemoptoe. The latter were of the kind attended with a quick bounding pulse, and I directed the medicine from the quality I knew it possessed of abating the action of the heart.

SOCIETY REPORTS.

TRANSACTIONS OF THE CHICAGO GYNECOLOGICAL SOCIETY.

Regular Meeting, Friday Evening, 19th June, 1885. THE PRESIDENT, DR. H. P. MERRIMAN, in the chair.

I. ETHERIDGE. A Report of a Case of a Fœtus, Enclosed In Its Sister's Placenta. *Fœtus Compressus. Fœtus Papyraceus.*

II. BYFORD. A Report of a Case of Leio-myom of the Vagina and Uterus.

I. PROFESSOR J. H. ETHERIDGE read A REPORT OF A CASE OF A FŒTUS ENCLOSED IN ITS SISTER'S PLACENTA. (*Fœtus Compressus. Fœtus Papyraceus.*) With exhibition of the specimen.

On 26th September, 1882, Mrs. T. J. B., 22 years old, of a nervous sanguine temperament, healthy, was delivered of a mature female child, after a normal labour of four hours duration.

During the delivery of the placenta, some abnormity was detectable, which proved to be a *fœtus papyraceus.*

THE OUTER SURFACE OF THE PLACENTA.

The outer surface of the placenta at once arrests attention. A deep furrow separates the two placentæ, which are united, on their amniotic surface, by a series of compact white bands, discoverable only by pressing through the furrow. The large placenta constitutes about two-thirds of the entire mass. The smaller placenta is thin, flat and compact, being about one-third as thick as the larger one.

The placenta of the living child is normal throughout its extent. Cotyledons are well marked, the tufts and villi pre-

senting normal microscopical characters. The placenta of the *fœtus compressus*, in about nine-tenths of its extent, is whitish-yellow, and very firm. The whole thickness of this portion of the placenta, excepting its amniotic surface, presents one unbroken mass of fatty degeneration. The remaining one-tenth of the placenta presents a carneous appearance, evidently a transition stage between normal placenta and complete fatty destruction. Its cotyledons are enmassed and its tufts and villi solidified and the whole is interspersed with initial fatty depositions.

THE FŒTAL SURFACE OF PLACENTA.

The two segments were wholly different at time of birth. The placenta of the living child presented a normal appearance. The placenta of the *fœtus papyraceus* presented the appearance of a closed bladder, which, upon examination, was found to be an unruptured amnion, containing amniotic fluid and a fœtus. The development of the *fœtus compressus* corresponded to the third month. The cord of the *fœtus papyraceus* was ten cm. longer than that of its fellow, and much thinner. The cord was inserted into the margin of the placenta, near the fully developed organ.

PATHOLOGY.

Among the causes, producing the death of the fœtus, the following may be mentioned:

1. Faulty insertion of the cord, at the margin of the placenta, adjoining its fellow. (Kieselhausen).

2. Faulty structure of the cord; thin, twisted, or deficient in the jelly of Wharton. (C. Braun).

3. Disease of the placenta.

4. Traumatism.

5. The implanting of the umbilical vessels too closely together, and arterial anastomosis.

LITERATURE.

Fœtus papyraceus is of seldom occurrence. A search through the library of the Surgeon General's office at Washington resulted in finding only five references to reports of similar cases.

DISCUSSION.

DR. PHILIP ADOLPHUS thought that such cases were of more frequent occurrence than the remarks of the author of the paper would lead one to believe. In twin pregnancy, the death of one fœtus before parturition was not infrequent.

PROFESSOR W. W. JAGGARD agreed with Dr. Adolphus that while such cases were rare, a more extended research into the literature of the subject would have revealed a much larger number of cases.

While it was true that American and English text-books usually merely mentioned the fact of occurrence, German, French and Italian treatises devote a chapter to the subject. The last edition of SCHROEDER contained an excellent *résumé* of the literature. The case, reported and exhibited by Professor Etheridge, resembled in many points the case in the Pathological Museum of the Jena Lying-in Hospital, fully described by B. S. SCHULTZE. This specimen showed the placenta of a mature fœtus, and adjoining it a second egg, corresponding to the sixth week of pregnancy, with its own decidua and unruptured amnion.

Professor Etheridge's case was chiefly interesting, as bearing upon a subject of theoretical importance, *i. e.*, superfecundation, and superfœtation.

On *à priori* grounds, it was possible that superfœtation could occur as late as the twelfth week of pregnancy,—when *decidua vera* and *reflexa* became united. Up to this time, it was possible that egg and spermatozoid might come in contact.

Superfœtation was also possible in cases of double uteri. Up to the present time, however, no case has been recorded which does not admit of a simpler explanation.

There exists a great weight of evidence in favor of superfecundation. Mares give birth simultaneously to horse and mule foals; bitches, running during the period of rut with different breeds of dogs, throw young of different, so-called bastard forms, corresponding to the breeds of the male progenitors; the same is true of cats.

A woman may give birth to twins, one of which is white, one black.

The latter fact, however, does not necessarily demand for its explanation intercourse at or near the same time with a white and a black man, since in crossing races, the offspring may resemble either father or mother, or one child may resemble the male, the other the female progenitor.

There could be no reasonable doubt as to the accuracy of Professor Etheridge's diagnosis.

DR. JOHN BARTLETT had seen one case of *fœtus compressus*, in the CHICAGO WOMAN'S HOSPITAL, about four years ago. One fœtus was mature, the other corresponded in development to the fifth month of pregnancy.

DR. BARTLETT referred to the contribution of SMELLIE and MAURICEAU upon the subject.

DR. EDWARD WARREN SAWYER referred to the fact that in ectopic pregnancy no compression of the fœtus was observed. He alluded to a case, in which he performed laparotomy three and one half years ago. The fœtus weighed eight pounds.

There could be no question about superfœtation in Professor Etheridge's case.

Fœtation, by inclusion, might be considered as explanatory of many of the monstrosities which are so commonly seen.

PROFESSOR DANIEL T. NELSON thought it would be interesting to know how much force was necessary to compress the fœtus as in Professor Etheridge's specimen. He referred to the experiments of Professor Park, of the Massachusetts Agricultural College, in the determination of the expansile force of growing squashes and pumpkins.

THE PRESIDENT wished to know whether the death of the fœtus occurred before compression, or whether it resulted from that factor. The marginal insertion of the cord doubtless was an important etiological agent. When the uterus was in the pelvic cavity, compression was greater.

He referred to the fact that in twin pregnancies, it was unusual to find both children equally developed, and frequently the birth of one preceded that of the other by minutes, hours and even days.

II. DR. HENRY T. BYFORD read A REPORT OF A CASE OF LEIO-MYOM OF THE VAGINA AND UTERUS.

The patient was a widow, about thirty-five years old. She had been married ten years, without becoming pregnant.

She had no decided symptoms of disease except an occasional back-ache, some leucorrhœa. She was treated for uterine inflammation three years before, and no tumour was discovered. Since that time, she has menstruated every two weeks. Catamenia usually lasted five days, and were normal as to quantity.

Twelve years ago, she noticed a tumour about the size of a hickory nut just within the vagina. This swelling had since that time grown steadily, until its protrusion from the vagina, about 12th of Jan., 1885, caused great inconvenience. Even at that time, the pain was promptly relieved by an opiate, administered by Dr. Doering. Two or three days subsequently, the tumor became black, swollen, and emitted a gangrenous

odor. Slight septicæmia followed cauterization with nitric and carbolic acids. The tumour was attached to the anterior wall of the vagina.

The tumour was subsequently crushed off, and the patient recovered. Indagation revealed a protuberance, about the size of a goose egg, upon the right anterior surface of the uterus, which was apparently a leio-myom.

The following points of interest are to be noted in connection with the case:

1. The occurrence of both tumours in the same person.

2. The slow growth of the vaginal as compared with the uterine tumour.

3. Sloughing of the capsule, immediately after protrusion from the vagina, without impairment of the vitality of the tumour, proper.

4. Entire absence of sensitiveness to strong acids.

5. The production of a pedicle by ligaturing the proximal end with a fine wire.

6. Sterility, antedating the discovery of the uterine tumour.

7. The influence of ergot upon the uterine tumour.

DISCUSSION.

DR. EDWARD WARREN SAWYER thought the locality of the vaginal tumour was interesting but not unusual.

PROFESSOR DANIEL T. NELSON inquired whether or no fibroid tumours occurred by preference in the anterior vaginal wall.

He thought, as regards the operation, an elliptical incision around the base, and enucleation of the tumour, would have fulfilled the indications equally well.

The Society then adjourned.

W. W. JAGGARD, M. D.,
Editor.

2330 Indiana Ave., 24th July, 1885.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, July 20, 1885, S. J. JONES, Chairman, *pro tem.*

PROFESSOR W. E. CASSELBERRY read an interesting paper detailing the surgical procedures in a case of membranous occlusion of the posterior nares. His patient was aged about fifty, a native of Russian Poland, and had suffered from obstruction of the left nasal chamber for the last thirteen years. Thick, viscid and foul muco-purulent crusts accumulated in the nares and naso-pharyngeal space which he could neither expectorate nor expel through the nose on account of the impenetrability of the nostril to currents of air. Partial occlusion, also, of the right nasal chamber necessitated frequent and prolonged mouth-breathing, and consequently he has suffered from atrophic pharyngitis and laryngitis, with painful deglutition, cough, suffocative paroxysms, etc. Deafness in the left ear and annoying *tinnitus aurium* have long been prominent symptoms. Most violent paroxysmal headaches, constant soreness on the top of the head, vertigo, especially upon stooping, and various indescribable cephalic sensations of a most distressing character, have served to render life miserable.

By a rhinoscopic examination the pharynx was seen to be covered with a foul, viscid, muco-purulent substance, continuous in descent from the naso-pharyngeal space, and imparting to the expired air a disgustingly fetid odor. The naso-pharynx was filled with rotten crusts which necessitated removal for further inspection of the parts. Having thoroughly cleansed the parts and accustomed the patient to instrumental manipulation, by using Voltolini's uvula holder, a good rhinoscopic image was obtained. All previous efforts to pass a probe from in front had failed, and passing the finger behind the

palate through the mouth, an obstruction was encountered. The rhinoscopic image revealed a tense membrane covering the left choana almost completely. Its free edge was thin and sharp and approached so near to the septum, that only a small slit or opening remained between it and the septum narium. The left ostium tubæ could not be seen, the membrane evidently lying behind the Eustachian orifice, and so intercepting its image. On passing a probe between the membrane and septum the edge of the membrane could be pushed backward. It felt tense and was from one to two millimeters in thickness.

The right choana was partially covered by a membrane extending half across the aperture and intercepting the view of the superior and outer half of the middle turbinated bodies, and the right ostium tubæ. This membrane was much thicker and less tense than that on the left side.

In order to prepare the patient for treatment, he was trained daily for one week in the introduction of mirrors and instruments. A flexible silver probe was bent, after many trials, to exactly the proper curve to pass readily by way of the mouth and naso-pharynx into the opening on the left side and to pick up the membrane. A straight knife-electrode was then made to conform to the same curve, and lastly, this instrument, with the attachments complete, made several trial trips to the desired locality. All being in readiness, December 13, 1884, the knife-electrode was introduced through the opening between the membrane and septum and its edge pressed backwards against the membrane. At this moment the patient retracted the soft palate and shut off all vision. But, thanks to previous training, when instructed to relax all the parts the velum fell and the rhinoscopic image was perfect. Having adjusted the electrode properly the current was turned on, the knife end became red hot in an instant and the membrane was incised

without bleeding, and without sufficient pain to cause the patient to wince. In another instant the current was broken, the electrode cooled in a few seconds and was withdrawn. An examination revealed that the work had been wonderfully efficient. The membrane having been tense, when it was incised, each part retracted leaving an opening sufficiently large to bring into view the middle and inferior turbinated bodies, and to the delight of the patient to allow a free passage of air through the left nostril, and from that moment he has had none of the distressing cephalic symptoms mentioned. The floor of the nose, the septum and the turbinated bodies were thickly incrusted with horribly fetid, cheesy masses, decomposed and desicated secretions accumulated for years, which were removed with great difficulty. The catarrhal symptoms then gradually became less distressing. After two similar operations the left ostium tubæ became visible in the rhinoscopic mirror, and two or three touches with the knife served to entirely obliterate the membrane. Four similar operations served to obliterate the membrane in the right side, and now both posterior nares are widely patent and in an approximately natural condition.

It is probable that atresia of the posterior nares is by no means so rare as the few reported cases and the omission of all mention in many treatises might lead us to suppose. The reporter had seen reports of two cases only occuring in the adult, one by Voltolini and another by Pomeroy. Records of cases occuring in infancy are more common, doubtless because the nursing function necessitates either a correct diagnosis and operation for relief, or death ensues and an opportunity for a postmortem examination. Reports of such cases are recorded by Ronaldson, Luschka, Betts, Cohen and Emmerts. In all these cases the malformation was congeni-

tal and it was probably so in the case above reported. This patient has never suffered from any illness which would act as a cause for the development of such a membrane. It may be possible that in earlier years the membrane was relaxed and less complete, similar to the condition found on the right side, and later it underwent contraction, became thinner, more tense and sufficiently extended to cover the choana. The left membrane was composed chiefly of a reduplicature of mucous membrane, with possibly some connective tissue and muscular fibres interlying in the thicker portion toward the outer border. The right structure contained considerable muscular tissue. There was no osseous malformation. Upon the left, the attachments were, apparently, to the mucous lining of the superior posterior edge of the vomer, the inferior surface of the body of the sphenoid bone, the left pharyngeal wall behind the Eustachian orifice and the superior posterior surface of the velum palati. Upon the right the attachments included only the inferior surface of the body of the Sphenoid, and the right pharyngeal wall behind the Eustachian orifice.

The galvano-cautery is more useful in such operations because it is a dull instrument; can be introduced or withdrawn without harm; can be used when applied to the proper place, and almost no bleeding or pain ensues.

The society adjourned after the paper was read and Professor Casselberry had exhibited a Fleming galvano-cautery battery with electrodes—as modified by Dr. Carl Seiler.

SANITARY CONVENTION AT YPSILANTI, MICHIGAN.

[Reported for the CHICAGO MEDICAL JOURNAL AND EXAMINER.]

Great interest was manifested in the Ypsilanti Sanitary Convention, which was held June 30th and July 1st, 1885, under the auspices of the Michigan State Board of Health. The physicians of Ypsilanti, the professors of the State Normal School, and a large number of other prominent citizens of that place were in constant attendance. About twenty physicians and health officers from other places were also in attendance.

C. L. Yost, Mayor of the city, opened the convention with a brief address of welcome, in which he said that "in times past we have been honored with the presence of other assemblages for consultation upon religious, political, medical or other interests; but this is the first time that disinterested philanthropists have come to us to discuss those great practical questions relating to the guardianship of public health." He thought that the adage, "an ounce of prevention is worth a pound of cure," was the inspiring motive that brought them together. Their city was more than usually blessed with conditions for good health; still they recognized the value of detailed instruction in sanitary subjects. Sanitary science is in its infancy, and all attempts to further it and bring intelligent attention to its teachings should be welcomed by thinking men everywhere.

Edwin Willits, President of the Michigan State Agricultural College, presided over the convention; and in his address dwelt upon the value of human life considered from an economic standpoint as worked out by eminent statisticians. A number of people who should produce $3,000,000 when in good health, could produce when not in good health only $2,000,000. Here is a loss of one-third, much of which could

be saved by applying the simplest sanitary precautions. It is the duty of a community to keep these human earning-machines in good condition of health or earning-capacity, even from economical motives. A community has the legal right to do this. We want pure water and plenty of it, clean streets, cleansed sewers and drains, swamps drained, cesspools filled up; and we should not count the cost on our fingers. The crowning labor of our medical science is the warding off of disease. Given by heredity a sound constitution, pure air, pure water and nutritious food ought to guarantee to every human being, as he puts his foot on this earth, his three score years and ten, with which assurance he might plan the labors of a well-rounded life.

Rev. Dr. Woodruff, of Ypsilanti, read a paper on "The Moral Effect of Sanitation." He told of the importance the ancient Jewish people gave to sanitation; and in a forcible way pointed out its power in elevating man morally as well as socially and physically. He thought the present attention given to sanitary matters is not temporary. The reform has come to stay.

Prof. Austin George, of the State Normal School, spoke on "Sanitary Needs of School Buildings and Grounds." 1. School site should be on gravelly soil, a natural knoll, admitting thorough drainage; 2. Wells should not be nearer than 100 feet to the outhouses; 3. Basements should be high, with free circulation of air under ground floors. School rooms should contain 250 cubic feet of air space for each child. The light should come in over the left shoulder. The windows should go to the ceiling, and within three and one-half feet of the floor. The blackboard should be on the side of the room opposite the windows, and never have a glossy surface; 4. The simplest heating and ventilating apparatus is the hot-air

furnace, and for small buildings the jacketed stove. The foul air outlets should be ample, and at the floor level. With any system, the rooms should be frequently flushed with fresh air through windows and doors. The temperature should be kept at 70° Fahr., not by teachers' sensations, but by thermometers; 5. Perfect desks and benches, not yet made; they should be adjustable, to suit different sizes, and be constructed with reference to the curves of the body. There should be foot-rests which could be raised or lowered until each pupil is made comfortable and able to take a healthful position. Many spinal complaints and pulmonary diseases are produced by improper desks; 6. Means for drying wet wraps should be provided; 7. Precautions against fire should be had, especially in the heating apparatus and the chimney; 8. "Inasmuch as the state educates the children, and compels their attendance in public buildings, the state should see that the children are not subjected to any preventable cause of disease."

This paper called out a long discussion, participated in by Dr. Avery, of Greenville, President of the State Board of Health; Prof. Vaughan, of Ann Arbor, member of the State Board of Health; Prof. McLouth of the State Agricultural College; Prof. Langley, of the Michigan University, and many others.

Dr. Bion Whelan, of Hillsdale, Mich., spoke on "Sanitation in Small Cities." The water supply should be guarded from contamination from cesspools and vaults. If we could not have sewers, the most feasible plan for disposing of garbage is to divide the city into districts and have it removed by licensed scavengers. Sanitary science should be taught in schools. The women should be taught sanitary needs, as much of sanitary work falls upon them. The nature of contagious diseases, and means for their restriction should be known by all.

Dr. J. H. Kellogg, of Battle Creek, member of the State Board of Health, treated of the "Disposal of Slops and Garbage," illustrating his remarks by use of the blackboard. He pictured in a graphic way the ordinary condition of back yards, as contrasted with front yards. He prefaced his subject proper with a brief description of bacteria and other low forms of microscopic life, and showed the relation of these to decay, no decay being possible without their intervention. He showed the importance and usefulness of certain sorts; the dangerous nature of others. He spoke of flies in relation to filth. They are a very strong indication of the presence of filth, and consequently of germs, and it is even believed that the germs of certain diseases may be spread by them. Whenever a house is full of flies, you may be certain that slops or garbage of some sort has been allowed to accumulate about the premises. He stated that the air about cesspools, foul drains and other filthy places is usually swarming with micro-organisms, and he believed that even if such germs were not the direct cause of certain diseases, the continual breathing of such air predisposes thereto. All sources of filth should be carefully and speedily removed from the habitation and its vicinity. Garbage can be reduced to a minimum by a little attention to domestic economy. Much food that becomes garbage through carelessness could be turned to good use if not neglected. Even after due care, however, some refuse will remain. So far as possible this should be burned. That is the best method of disposal. Where it is impracticable, a water-tight covered receptacle can be used for receiving such refuse, which should be removed frequently by a paid scavenger or otherwise. Slops should not be thrown upon the ground, into open drains or into cesspools in the yard. He had known of frequent instances in which wells and cisterns were contaminated from

the seepage of foul privies, drains and cesspools. If slops must be poured on the ground, set off a portion of the back end of the garden, and distribute the slops on different parts of it on alternate days, giving in this way some opportunity for the soil to oxidize the organic matter. Slops containing excreta from contagious diseases should be thoroughly disinfected.

Chas. R. Whitman, of Ypsilanti, one of the regents of the Michigan University, read a paper on the "Limitations and Duties of Local Boards of Health." The powers and duties of local boards of health should be as follows:

1. To ascertain the causes of sickness and of death, and from time to time the prevailing diseases among all classes;

2. To prevent or mitigate diseases, especially zymotic or epidemic, endemic and contagious diseases;

3. To effect the periodical or special vaccination of the inhabitants;

4. To ascertain, prevent and remove or abate nuisances dangerous to public health;

5. To prevent the introduction of malignant, infectious or contagious discases, and to isolate persons afflicted or believed to be afflicted with such diseases;

6. To establish, locate and manage hospitals for persons having contagious diseases;

7. To prevent the sale of any article for food or drink which is unwholesome;

8. To enforce these regulations by a sufficient penalty.

Mr. Whitman said that the radical defect in the law defining the powers and duties of local boards of health is the lack of a general law forbidding evils and imposing penalties. Such a law should be enacted, and it should be as sweeping and as readily enforced as is the criminal law. He thought that the

subject of sanitation should become one of education in the schools, so that the future citizen, architect, and physician may be instructed in the principles of sanitation.

After a thorough discussion of this paper, participated in by Professor A. B. Palmer, of the University of Michigan, and many others, it was voted that Mr. Whitman be requested to draw a bill suitable for presentation to the legislature, framed to cover the question under discussion, and suited to correct existing defects in the present law. The bill is to be published in the proceedings of this convention.

Dr. A. F. Kinne, in a paper on "Sources of Malaria in Ypsilanti," took the ground that malaria is caused by a malarial germ native in certain soils and waters. Boards of health should require that the basements and sub-floor spaces be thoroughly ventilated; and no mill-dam owner who used water should be allowed to keep the pond much less than full.

Dr. O. W. Wight, Health Officer of Detroit, spoke on the "Prevention of Communicable Diseases." He showed clearly the contagious nature of those diseases; the great and unnecessary loss of human life resulting therefrom; and how they were best restricted, citing cases from his own long experience in Milwaukee and in Detroit. The main points in an outbreak of a contagious disease are:

1. On the part of the householder and physician—

(*a*). Speedy determination of the nature of the disease;

(*b*). Prompt notification to health-officer;

(*c*). Cheerful acquiescence in regulations of health-officer.

2. On the part of the health-department—

(*a*). Immediate separation of sick from the well, as only those required to nurse should be allowed in the room; the sick-room should be an upper chamber;

(*b*). Strict quarantine of the premises, and placarding of

premises; if small-pox, all exposed should be vaccinated in both arms;

(*c*). Private funeral;

(*d*). Thorough disinfection, after death or recovery, by chlorine gas or fumes of burning sulphur, of bedding, clothing, premises, etc.

Dr. Wight thought that diphtheria and scarlet fever were sometimes spread by careless physicians,—criminal carelessness. During four years in Detroit he had witnessed a large growth of public sentiment in favor of public health-work.

Professor Victor C. Vaughan, of Ann Arbor, member of the State Board of Health, next spoke on "Water-Supply." Sources of water-supply are three—cisterns, surface, and subterranean. Cisterns should always be plastered outside and inside, with an excavation of at least two feet larger than the reservoir, so that a brick or stone wall may be built or plastered as above. Cistern water when boiled and filtered is the best for use. Professor Vaughan cited cases in Ann Arbor and Adrian in which drain-water percolated into cistern-water, causing malignant typhoid fever. In the discussion of surface-water, he said that we had in this country all the conditions for the development and spread of the cholera-germ should it once reach our shores. Well-water is a suspicious water, because of the ease with which contamination can be carried dowu through the sand and gravel into the well. Subterranean water is not necessarily pure. By carefully selected illustrations he showed that contamination would be carried through the soil an almost limitless distance by the percolation of water, the water acting as the carrying agent.

Prof. Jas. H. Shepard, of Ypsilanti, read a paper on "The Present Condition of the Water Supply of Ypsilanti." The city has been settled 60 to 70 years; it has no sewers, and

the privy system is in use. The drinking-water is obtained mostly from shallow wells. Ten careful analyses of well water had been made, and in eight of them chlorine and albuminoid ammonia were found largely in excess of what pure water should contain. The water of a drive-well, and that of the Huron river, which runs through the city, were comparatively pure.

A paper by Professor C. F. R. Bellows, of Ypsilanti, on "The Future Water Supply of Ypsilanti," was next read. It is an able paper, but is of a rather local interest, although the principle recommended may be quite generally adopted. The proposal is to have a general water-supply from one very large well outside the city proper, in such a locality that the water-shed supplying the well shall not be liable to contamination by privies, etc.

The papers on water-supply called out a spirited discussion, led by Dr. Wight, of Detroit, and Professor Palmer, of the State University.

Dr. Ruth A. French, of Ypsilanti, read a paper on "Management of Earth-Closets." It is a practical way out of the "privy-nuisance" for towns too small to have sewers and a general water-supply. Earth-closets deodorize the excreta, destroy germs of contagious diseases, and are necessary to invalids.

Erwin F. Smith, of Lansing, spoke on the "Relations of Sewerage and Water-supply to the Death-rate in Cities." His general propositions were: —

1. Some method of sewage-disposal is a necessity of civilized life;

2. Dry-earth closets, *properly cared for*, will answer for isolated dwellings and small villages, but water-carriage is the only system adapted to large towns and cities;

3. The prevalence of typhoid and cholera is in an inverse ratio to the sewerage of a city;

4. The modern increase of diphtheria cannot be attributed to sewers;

5. The death-rate from all causes falls whenever a city is thoroughly sewered, and never attains its *ante-sewered* maximum;

6. Judged solely from the standpoint of pecuniary economy,—the lowest of all standards—sewerage and water-supply can be successfully defended against all opposition.

The statistics used in this paper are drawn from the highest authorities, American and foreign; are brought down to the close of the year 1884, and in many cases cover long periods—10 to 40 years. They show that typhoid fever has fallen off from one-half to nine-tenths in sewered cities since they adopted sewerage, and that such cities are practically secure from the ravages of cholera. *Per contra*, in non-sewered cities, the typhoid-fever and the cholera-mortality is as great to-day as it was thirty years ago.

Dr. H. F. Lyster, of Detroit, advocated the separate system of sewerage as best, and said it could be built in small cities for about $6.000 per mile. He spoke of the evil influence of soil-infection by vaults and privies, and urged sewerage as a sanitary necessity.

At the close of the convention, arrangements were made for the organization of a local sanitary association, the local committee of the convention being a committee to complete this organization.

STATE BOARDS OF HEALTH.

THE ILLINOIS STATE BOARD OF HEALTH.

The Illinois State Board of Health held its regular quarterly meeting in Chicago on the 2nd and 3rd of July.

In addition to the transaction of its usual routine business, the board proceeded to the consideration of the cases of those against whom charges of unprofessional conduct had been preferred. The first was that of John Bate, who was charged with having advertised his calling under such fictitious names as A. G. Olin and J. G. Carlton, and with having been convicted in the United States court of having sent obscene literature through the mails, for which he was sentenced to the penitentiary. Proper notice was served upon him prior to the meeting of the board, but he failed to appear, either in person or by counsel, to defend himself against these charges, which were considered in due form by the board. The evidence of the correctness of the charges preferred seemed conclusive to the board, and the license to practice medicine, which had been issued to him in 1877, was revoked and annulled, on the ground of his having been "guilty of unprofessional and dishonorable conduct."

The next case considered was that of one J. Cresap McCoy, now located in St. Louis, Missouri, who had once been located in Belleville, Illinois. He was charged by the board with having circulated his advertisements, in which claims and promises were made by him which were considered false and

fraudulent. He was duly notified to appear before the board to defend himself against the charges made against him. He failed to appear, as required, either in person or by counsel, and after having investigated his case the board considered the charges fully proven and revoked and annulled the license, "for unprofessional and dishonorable conduct," which had been issued to him in February, 1885.

Other cases were considered, among them that of "one Henry H. Williams," of St. Louis; also of "a Dr. Westmoreland," of St. Louis, and of a "J. G. Gilfilan," at Lenzburg, Illinois, and of "H. D. Flower, M. D., of Fulton City," Illinois, and of "Dr. W. B. Watson, of Streator, Illinois." Their cases have not yet been disposed of by the board.

The report of the secretary of the board makes a very favorable showing of the public health of the State of Illinois.

A few scattered cases of small-pox have occurred during the preceding three months, in different parts of the State, but the disease had been prevented from spreading.

The board has not relaxed its efforts at securing good sanitation for the entire state, which were instituted when the danger of the appearance of cholera in this country seemed greater than it does at present. Even in the absence of this dreaded scourge, the good accomplished—immediate and prospective—by such work is of incalculable advantage to the individual and to the state, and the board deserves recognition of its efforts, and commendation for them.

The secretary's report notices the fact that the city of Chicago has placed an additional appropriation of one hundred thousand dollars at the disposal of the Commissioner of Health of the city, for the improvement of the sanitary condition of the city, which sum is being judiciously expended, and the house-to-house inspection thoroughly conducted. The

legislature of the state has made an appropriation of forty thousand dollars as a contingent fund, available in case of an outbreak of any epidemic disease. In addition, it has increased the amount of the appropriation for the current expenses of the State Board of Health.

The subject of the existence in the state of cases of glanders was considered by the board, and a conference was had with the State Veterinarian, who strongly urged upon physicians and the public generally, the exercise of great care regarding this fatal disease. Horses affected with it should be killed without consideration to their pecuniary value. On no account should any chances be taken of the disease being contracted by human beings, of which there is much danger, as may also be said of its kindred disease, known as farcy.

The secretary, in commenting on the report of the State Veterinarian, says: "The practical deduction from the foregoing is, that in localities where glanders among horses exists, physicians, in making up the diagnosis of an obscure case among their patients, would do well to bear in mind the resemblance of glanders, in the early stages, to rheumatism, typhoid fever, and pyæmia; and, in the chronic stage, to syphilis and tuberculosis. Under such circumstances, the occupation and history of the sufferer should be taken into consideration; and, remembering the highly contagious nature and practical incurability of glanders, proper precautions should be observed until it is demonstrated that it is not that disease."

MICHIGAN STATE BOARD OF HEALTH.

(Reported for the Chicago Medical Journal and Examiner.)

At the quarterly meeting of the State Board of Health of Michigan, held July 14, 1885, at its office in Lansing, the following members were present: Drs. Avery, Lyster, Hazlewood, Vaughan, Tyler and Baker.

The board spent much time in examining plans, as required by law, of a proposed new double cottage at the Reform School at Lansing, a building designed to accommodate 100 pupils. The plans were submitted by the architect, Mr. Wm. Appleyard, of Lansing. The board approved the plans for ventilating and warming the second and third floors. With reference to the first floor, the board recommended, in order to avoid the settling of dust in the registers, that iron hoods be placed over the fresh-air inlets which enter the school-rooms through the floor, and that two additional foul-air outlets, each of a size equal to that of the present outlet, be provided for the two school-rooms,—one in the west wall of the west room, and the other in the east wall of the east room, and that these shafts be heated by steam pipes. Each of these two school-rooms is thirty by forty feet, and ten feet high, designed to accommodate fifty pupils. Fresh air is brought into each room by two shafts, having an area of 512 square inches. The foul-air shaft for each room is only one-half the size of the inlet pipes; the area being 256 square inches. The recommendation by the Board of Health is that the outlets equal the inlets in area. The method of heating and of taking fresh air into the building was approved, and also the making of the basement floor of cement troweled smooth.

The secretary presented a printed statement in regard to

the charges made by a minority of the legislative Committee on Investigation, and asked that a committee be appointed to fully investigate the conduct of the office, and the several laws governing the action of this board. Drs. Hazlewood, Vaughan and Tyler were made such a committee.

The Secretary read a *résumé* of the work of other state Boards of Health, and of city boards of health; also a report in regard to recent legislation in Michigan in regard to subjects relating to public health. The act passed by the legislature appropriating ten thousand dollars as an epidemic contingent fund was also read by the secretary, and the board appointed Drs. Baker and Lyster a committee to frame rules under that law, and submit them to the members, so that they can be in readiness in case of threatened occurrence of cholera, small-pox, etc. The board authorized the secretary, should cholera appear in Michigan, immediately to proceed to the place, or send a competent person to confer with and aid the local board in restricting the spread of the disease; and it was informally agreed that if cholera appeared in the United States, the president of the board should at once call a meeting. The revision of the document on restriction of cholera, issued by the board in 1884, and the printing of 20,000 copies for distribution, were ordered.

The Board directed that the names and addresses of health officers in Michigan be printed in pamphlet form.

The subject of typhoid fever was discussed, and the secretary was instructed to issue a circular designed to collect information from health officers in localities where typhoid fever occurs; and a committee was appointed to prepare and have printed a document giving methods of preventing and restricting typhoid fever, the document to be distributed in localities where it occurs.

The board considered the subject of the carrying of infected articles and bodies, dead from contagious diseases, and circulars relating to that subject were ordered to be printed and sent to health officers and to railroad companies.

The following is from the secretary's report of work done during the quarter ending, July 13, 1885, the leading features of which are as follows: The weekly and monthly bulletins of health in Michigan, and the meteorology and mortality reports had been prepared from the numerous reports received, and sent out as heretofore. The footings and computations on meteorological registers and on the sickness reports and tables have been carried on; and the meteorological computations for the year 1884 nearly completed ready for tabulation. The office had made large distributions of documents relative to the work of health officers, and to the restriction of contagious diseases, to newly appointed health officers, and to others, especially in localities where such diseases have occurred. The proceedings of the sanitary convention at Lansing have been edited, sent to the printer, and the proof on most of it read. Articles on meteorology and sickness in Michigan in 1883 have been completed from data previously collected. Data collected by the office relative to scarlet fever in Michigan in 1884 have been compiled; and also those relative to diphtheria. A map has been prepared showing the distribution of diphtheria in Michigan in 1884. Small-pox has been present in Michigan during the quarter: at Bellevue, Eaton county; Alba, Antrim county; Battle Creek, Girard township; Branch county, and South Haven. The outbreak at South Haven was confined to those first exposed, and has been stampted out, after nine cases occured with one death. The infection at South Haven was from a German immigrant who sailed from Bremen, April 12th, on the ship *Donan*,

North German Lloyd line. The immigrant was broken out with small-pox when he reached South Haven, April 27, and might have been quarantined *en route*, and the outbreak thus confined to the one case. All infected persons were at once vaccinated by the health officer, but the virus was not good, and thus precious time was lost. This outbreak is but another added to the many constantly recurring outbreaks of communicable diseases in Michigan and the northwest, to which a faithfully executed immigrant inspection service, carried on by the national government, would put an end, or greatly lessen. At the present, so far as known, there is not a case of small-pox in Michigan. Typhus fever was reported at Grand Rapids, during the week ending July 4th.

Cholera is spreading with great violence in Mediterranean Spain, hundreds are dying daily. It was reported as present in Marseilles over a month ago, and July 10th, at Toulon. A strange and fatal disease, believed to be cholera, was also reported from Portugal. Asiatic cholera will probably reach this country this year or next year, and the State Board of Health has prepared to meet the emergency by many lines of work, as best it could. About twelve thousand copies of the document on the best method for the prevention and restriction of cholera were distributed to the people last year. The recent distribution of documents relative to typhoid fever, and especially the correspondence with health officers throughout many parts of the state, on the best method of restricting this disease, has done something in the way of drill in the two important methods applicable in case of cholera,—the disinfection of all bowel discharges and the protection of the purity of the water supply. Much, however, remains to be done in many localities in the way of abating nuisances, and in protecting wells from sources of contamination. The legislature has

passed an act granting to the State Board of Health power to establish a system of inspection of immigrants and travelers, and the disinfection of baggage, etc., liable to be infected with cholera or other dangerous communicable disease; but the act was not given immediate effect and so does not take effect until September 18th, 1885. The contingent appropriation to enable the Board to carry on the inspection, etc., provided for in the act can be used on or after September 18th, in case the Governor thinks its use is necessary. Reports relative to examinations during this quarter, by this board, of plans for buildings, have been sent to the boards governing the Michigan Asylum for the Insane at Kalamazoo, the Northern Asylum for the Insane at Traverse City, and the State Reform School at Lansing. Over six hundred and fifty pages of the letter-book have been used in copying the most important parts of the correspondence, and other branches of the office work has been large during the quarter, and the legislature made additional demands upon the time of the office.

A very successful Sanitary Convention was held during the quarter at Ypsilanti.

BOOK REVIEWS.

THE CURABILITY AND TREATMENT OF PULMONARY PHTHISIS *By* S. JACCOUD, *Paris. Translated by* MONTAGUE HALLOCK, M. D., *London. New York:* D. APPLETON & CO.; *Chicago:* JANSEN, MCCLURG & CO. *1885.*

This book is the substance of a course of lectures by Professor Jaccond, delivered during the winter of 1881 and 1882. In the preface the author states that he has been led to publish the work, both on account of the original character of certain pathological views which he holds, and also by the novelty of his conclusions and methods of treatment.

The first chapter is in part devoted to an attempt to prove that phthisis is curable—a position which will scarcely be questioned, I presume, by any one familiar with the American literature of the subject. He believes in the unity of tubercle but admits a duality of form, which, after all, consists only in quantity of tuberculous matter.

The conditions which influence the curability of the disease are considered in the second chapter. In studying these, he divides the cases into three (3) groups.

1. The hereditary.
2. The innate.
3. The acquired.

The first he thinks if less curable, is still amenable to treatment, but this treatment should be commenced in infancy and continued to adult life, if indeed adult life is reached. Children should not be allowed to nurse phthisical mothers, and

should not be allowed to live in the family with phthisical patients.

The author firmly believes in the communicability of the disease, but as these lectures were delivered before the discovery of Koch, he is unable to form an opinion as to the agent of communication. Rightly, as all will agree, he attaches the greatest importance to good nutrition as a prophylactic measure.

By innate phthisis is meant that form of the disease "observed in descendants of those who, though not tubercular, are weakened by scrofula, cachectic diabetes (?), alcoholism, or simply by bad hygienic conditions." Precisely how phthisis exists in a latent form in these persons the author explains only by the general statement that "tuberculosis is the common result of all forms of constitutional deterioration, either in the family or in the individual."

The innate form, he considers more amenable to treatment than the hereditary.

The acquired phthisis he again divides into two groups:

1st. Those cases resulting simply from mal-nutrition.

2nd. Those consequent upon some constitutional defect that is secondary to some other disease.

Of all forms of phthisis, those depending upon simple mal-nutrition are the most hopeful under proper treatment.

We cannot follow the author through a somewhat lengthy discussion of the etiology and the conditions of curability, but the reader who has patience to read this chapter will find many suggestions of interest.

The lectures upon climate are especially interesting—reference being made to the principal stations in Europe and Northern Africa, while no mention, or only a brief reference, is found to localities in America.

The style of the work is diffusive and in some parts obscure or contradictory. The translator assumes on the part of the reader a pitiable ignorance of scientific terms, thinking it necessary to explain the meaning of such expressions as "*histogenetic*," "*hydrotherapeutics*," "*epigenesis*," "*heteromophism*," etc., etc. He certainly desires to be understood.

H. A. J.

A TREATISE ON ASIATIC CHOLERA. *Edited and prepared by* EDMUND CHARLES WENDT, M. D., *New York. New York:* WILLIAM WOOD & CO. 1885. *Chicago:* W. T. KEENER, *96 Washington St.*

The publication of this treatise, at this time, is an opportune and valuable contribution to medical literature. It is especially valuable to American readers in presenting, in careful detail, a history of cholera since its first appearance in this country in 1832. Its course and progress are marked across the continent with the precision of the advance of a successful army, and its frequent repulses are justly referred to intelligent and persistent sanitary precautions. The history of the disease, as presented in this volume, constitutes the strongest possible plea for this mode of defence. The various theories of causation an given in chronological order, including the recent alleged discoveries of Koch as presented at the Berlin Cholera Conference in July, of last year, and the later researches of Maurin and Lange. The subject has been treated in all its aspects in a highly satisfactory manner, and all the mooted questions, relating to the cause, propagation, prevention, and treatment of the disease, have been discussed in a judicial spirit, as free as possible from editorial prejudice. The volume is well entitled to a place in medical libraries.

J. F. T.

ELEMENTS OF PRACTICAL MEDICINE. *By* ALFRED H. CARTER, M. D., *London. Member of the Royal College of Physicians, London; Physician to the Queen's Hospital, Birmingham; Emeritus Professor of Physiology, Queen's College, Birmingham; Examiner in Medicine for University of Aberdeen, etc. 12mo.* D. APPLETON & CO., *N. Y. Chicago:* W. T KEENER, *96 Washington St.*

This work, as its title indicates, is an elementary work and is not intended for the practitioner, but for the student as an introduction to the study of medicine. The author has arranged his subjects under their respective sections in a condensed and clear form, robbing them of many points not generally accepted by the medical world, and giving the latest accepted facts. The book will be particularly valuable to the student who is a candidate for hospital appointment, and the therapeutic index may also be a source of comfort to him.

R. R.

A TREATISE ON PRACTICAL CHEMISTRY AND QUALITATIVE INORGANIC ANALYSIS. *By* FRANK CLOWES, D. SC. *Philadelphia:* LEE BROS. & CO.; *Chicago,* JANSEN, MCCLURG & CO.

This work, which now appears in the third American edition, is intended for general laboratory students, and is one of the best of its kind in use.

The first part of the book deals with the preparation and properties of various simple substances, solids, liquids and gases, while following sections take up, systematically, the reactions and processes of qualitative analysis.

It is well written, clear and full enough for the general student, while for those making a specialty of chemistry it serves as a good introduction.

J. H. L.

NEWS ITEMS.

THE ILLINOIS ANATOMICAL LAW.

AN ACT to promote the science of medicine and surgery in the State of Illinois. Approved June 26, 1885. In force July 1, 1885.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly:* That superintendents of penitentiaries, houses of correction and bridewells, wardens of hospitals, insane asylums and poor houses, coroners, sheriffs, jailers, city and county undertakers, and all other State, county, town and city officers, in whose custody the body of any deceased person, required to be buried at public expense, shall be, shall give permission to any physician or surgeon, (a licentiate of the State board of health), or any medical college or school, public or private, of any city, town or county, upon his or their request therefor to receive and remove free of charge or expense, after having given proper notice to relatives or guardians of the deceased, the bodies of such deceased persons to be buried at public expense, to be by him or them used within the State, for advancement of medical science; preference being given to medical colleges or schools, public or private; said bodies being distributed to and among same, equitably; the number assigned to each, being in proportion to the students of each college or school: *Provided however*, that if any person claiming to be, and satisfying the proper authorities that he is of kindred to the deceased, shall ask to have the body for burial, it shall be surrendered for interment: *And*

provided further, that any medical college or school, public or private, or any officers of the same, that shall receive the bodies of deceased persons for the purpose of scientific study, under the provisions of this act, shall furnish the same to students of medicine and surgery, who may be under their instruction, at a price not exceeding the sum of five dollars for each and every such deceased body so furnished.

SEC. 2. Any physician or surgeon, (a licentiate of the Illinois State Board of Health) or any medical college or school, public or private, before receiving any dead body or bodies, shall give to the proper authority, surrendering the same to him or them, a sufficient bond that said body or bodies shall be used only for the promotion of medical science within this State; and whoever shall use said body or bodies for any other purpose, or shall remove the same beyond the limits of this State; and whosoever shall sell or buy any such body or bodies or shall traffic in the same, shall be deemed guilty of a misdemeanor, and shall, on conviction, be fined in a sum of not less than one hundred dollars, and be imprisoned in the county jail for a term not less than thirty days nor more than one year; the fine accruing from such conviction, to be paid into the school fund of the county where the offense shall have been committed.

SEC. 3. Any officer refusing to deliver the remains or body of any deceased person when demanded in accordance with the provisions of this act, shall pay a penalty of not less than fifty dollars, nor more than one hundred dollars for the first offense, and for the second offense, a penalty of not less than one hundred dollars, nor more than five hundred dollars; and for a third offense, or any offense thereafter, the penalty of not less than five hundred dollars, or to be imprisoned in the county jail not less than six nor more than twelve months, or both, at

the discretion of the court; such penalties to be sued for by the health department, as the case may be.

SEC. 4. It shall be the duty of preceptors, professors and teachers, and all officers of medical colleges and schools, public or private, who shall receive any dead body or bodies, in pursuance of the provisions of this act, decently to bury, in some public cemetery, or to cremate the same in a furnace properly constructed for that purpose, the remains of all bodies, after they shall have answered the purpose of study aforesaid, and for any neglect or violations of the provisions of this act, the party or parties so neglecting, shall on conviction, forfeit or pay a penalty of not less than fifty dollars, nor more than one hundred dollars, or be imprisoned in the county jail not less than six nor more than twelve months, or both, at the discretion of the court; such penalties to be sued for by school officers, or any person interested therein, for the benefit of the school fund of the county in which the offense shall have been committed.

SEC. 5. An act entitled "An act to promote the science of medicine and surgery in the State of Illinois," approved February 16, 1874, in force July 1, 1874, is hereby repealed.

BOOKS RECEIVED.

Compendium der Ohrenheilkunde. Von Dr. A. Sarron. Leipzig Ambr. Abel.

The Nature of Mind and Human Automatism, by Morton Prince, M. D.

Micro-Chemistry of Poisons, including their Physiological, Pathological, and Legal Relations, with an Appendix, by Theodore G. Wormley, M. D., Ph. D., LL. D. Second edition. Philadelphia: J. B. Lippincott & Co.; Chicago: W. T. Keener.

A General Index to the First Twenty Volumes of St. Bartholomew's Hospital Reports from 1865 to 1884. London: Smith, Elder & Co.

Urinary and Renal Derangements and Calculous Disorders, by Leonel S. Beale, M. D. Philadelphia: Blakiston Son & Co.; Chicago: W. T. Keener.

Hay-Fever, by Charles E. Sajons, M. D. Philadelphia: F. A. Davis, Attorney.

A Treatise on Asiatic Cholera. Edited and Prepared by Edmund Charles Wendt, M. D. New York: William Wood & Co.; Chicago: W. T. Keener.

A Manual for Hospital Nurses and others Engaged in Attending on the Sick, by Edward J. Domville. Philadelphia: P. Blakiston, Son & Co.; Chicago: W. T. Keener.

A Treatise on Practical Chemistry, by Frank Clowes, D. Sc. Philadelphia: Lea Bros. & Co.; Chicago: Jansen, McClurg & Co.

A Treatise on the Science and Practice of Midwifery, by W. S. Playfair, M. D., F. R. C. P. Fourth American edition. Philadelphia: Lea Bros. & Co.; Chicago: Jansen, McClurg & Co.

The Rational Treatment of Rupture, by A. H. Parker, M. D., Chicago.

Report on the Mortality and Vital Statistics of the United States as returned at the Tenth Census, by John S. Billings, Surgeon U. S. Army.

A Practical Treatise on Urinary and Renal Diseases including Urinary Deposits, by William Roberts, M. D., F. R. S. Philadelphia: Lea Bros. & Co.; Chicago: Jansen, McClurg & Co.

Second Report of the State Board of Health of the State of Tennessee.

PAMPHLETS RECEIVED.

Proceedings of the Nineteenth Annual Meeting of the Alumni Association of the Chicago Medical College.

Prospectus of the Oakwood Retreat, Lake Geneva, Wisconsin.

Sanitary Suggestions or How to Disinfect our Homes.

A Case of Extensive Recurrent Sarcomatous Disease. By John S. Miller, M. D.

Lectures on Phthisis Pulmonalis. By Ernest L. Shurley, M. D.

Medical Legislation. By Henry O. Marcy, A. M., M. D.

Report on Practical Medicine. By Ira E. Oatman, M. D.

Report of the Board of Trustees of the Michigan Asylum.

Electricity as a Remedial Agent. By George C. Pitzer, M. D.

A Word in Regard to the Pennsylvania State Board of Health Bill. By R. Harvey Reed, M. D.

Vitiligo. By R. Harvey Reed, M. D.

The Ohio State Sanitary Association. Second Annual Meeting.

Sanitary Schedule for State Sanitary Survey. Illinois State Board of Health.

Some Interesting Reflex Neuroses. By John J. Caldwell, M. D.

Twenty-fourth Annual Report of the Cincinnati Hospital.

Asiatic Cholera. By Oscar C. De Wolf, A. M., M. D.

Forty-second Annual Report of the Managers of the State Lunatic Asylum at Utica, New York.

Thirty-sixth Annual Report of the Trustees and Superintendent of the Indiana Hospital for the Insane.

Restraint or Non-restraint in the Treatment of the Insane. By Dr. W. B. Fletcher.

The Physiological Effects and Therapeutical Uses of Hydrastis. By Roberts Bartholow, M. D., LL. D.

Special Report on the Hungerford Outbreak. Arthur S. Hardy, Secretary.

Vital Statistics in Tennessee. A Report by J. B. Plunket, M. D.

Specialties and their Relation to the Medical Profession. By L. Duncan Bulkley, A.M., M. D.

"An Enemy Came and Sowed Tares." By Joseph Eastman, M. D.

Endometritis Fungosa. By James B. Hunter, M. D.

Constitutional Treatment of Caries and Necrosis. By Hal. C. Wyman, M. D.

History of the Clamp-Suture of the late Dr J. Marion Sims, and Why it was Abandoned by the Profession. By Nathan Bozeman, M. D.

The Over-crowding of the Profession. By Dr. E. J. Doering, M. D.

Suerseus Obturators. By Dr. L. Th. Weber.

Medical Society of the State of Tennessee. Transactions 1885.

Pneumonia in Young Children. By L. Emmett Holt, A. M., M. D.

Does Quinine Abort Pneumonia? By L. Emmet Holt, A. M., M. D.

Hydatid Tumors of the Brain. By R. Harvey Reed, M. D.

Cholera, its Nature, Symptoms, History, Cause and Prevention. By J. B. McConnell, M. D.

EXTRACTS.

PRACTICAL SANITATION.

The following extract is from instructions recently issued by the Health Commissioner of New York city, as published in *The Sanitarian:*

DIPHTHERIA, scarlet fever, measles, and small-pox are highly contagious diseases, attacking persons of all ages, and may be contracted from those who are already affected, from the clothes that they have worn, and from everything which has been in the room with them. Even the walls of the room may be a source of infection to persons coming into it after the patient has left it, unless the infectious material is destroyed. In order to prevent the spread of these diseases in a family or house where they exist, and to promote the recovery of the sick, the following simple measures should be conscientiously and rigidly carried out, thereby preventing much suffering and saving human life.

An upper, sunny room, provided if possible with an open fireplace, and with no children on the same floor, should be arranged for the patient by removing everything from it which can possibly be spared, such as books, clothing, carpets, upholstered furniture, and window-curtains; also plants, birds, and other pets, remembering that when once the patient has entered the room nothing can with safety be removed until disinfected. By thus stripping the room of all articles except those absolutely necessary, the subsequent disinfection is much more

easily performed. If it is deemed necessary, a few small rugs will take the place of the carpet.

The fireplace serves a double purpose: first, as a means of ventilation; and second, by keeping a small fire burning therein, when the weather will permit, the pieces of soft muslin or other material, which should always be used instead of towels or handkerchiefs in wiping the secretions from the mouth or nose, especially in diphtheria, can readily be destroyed by fire, and thus contagion through them prevented.

One or two adults should take the entire charge of the patient, under no circumstances coming in contact with other persons, especially children. Kissing and "taking the breath" of persons having contagious disease are especially dangerous, and should always be avoided. Open windows and open fireplaces, with fire in them day and night, avoiding draughts and chilly air, protect the sick and those who nurse them.

Nothing should be removed from the room when the patient has once entered it until it has been thoroughly disinfected.

Books, scrap-books, toys, or other playthings should always be destroyed at the termination of the sickness, as being undoubted carriers of contagion. Locks of hair and other keepsakes have also been known to spread contagious disease.

Nurses should keep themselves and their patients as clean as possible, remembering that the more the infection accumulates the more dangerous does it become. Special care should be taken in changing sheets and the clothing not to shake them or disturb them more than is absolutely necessary to remove them. As these acts disseminate the particles of skin which are removed with them, and which convey the germs of the disease, they should be removed carefully and folded together, and immediately disinfected.

DISINFECTION.

It is a popular idea that anything which destroys an offensive odor is a disinfectant. This is not only erroneous, but harmful, as reliance is thus placed on substances that in nowise act as destroyers of infectious material, which latter substances are the only true disinfectants. The methods recommended in this circular are, to a considerable extent, based upon the results of the work of the Committee on Disinfectants of the American Public Health Association.

DISINFECTANTS.

The agents recommended herein for disinfection are:

1. Fire.
2. Boiling water.
3. Chloride of lime or chlorinated lime, either dry or in solution, as Standard Solution No. 1.
4. Solution of chlorinated soda, diluted as Standard Solution No. 3.
5. Sulphur.
6. Bichloride of Mercury.

Bichloride of mercury, or corrosive sublimate, a powerful disinfectant, is included in the above list for one purpose only; that is, for the disinfection of privy-vaults which contain a large amount of material believed to be infected. As this circular is intended for general distribution, the writer hesitates to recommend for general use an agent which may, through improper use, endanger life.

Fire.—As already directed, the materials used in wiping away the discharges of the sick may be burned in the open fireplace, if such there be. In general, this method of disposal is to be recommended for all substances which have been exposed to infection, which cannot be treated with boiling water, and could it be carried out in all cases, would make disinfection a very simple matter. If it is desired to burn sub-

stances suspected of being infected, and there is no fire in the room, such substances may be wrapped in a sheet soaked with Standard Solution No. 3, hereafter referred to, and in this condition conveyed to the fire in the furnace or elsewhere.

Boiling Water.—Experiment has demonstrated that boiling in water for half an hour will destroy the vitality of all known disease-germs. This is therefore recommended as the best means to be employed in the disinfection of all articles which can be thus treated, such as the body-clothing of the patient, the bedclothes, towels, etc. All utensils which are used in the room in the feeding of the patient, such as plates, tumblers, spoons, knives, forks, etc., should likewise be treated with boiling water before being removed from the room. Food itself not consumed by the patient should not be used by others, as it is liable to become infected in the sick-room.

If, as will often be the case, there are no facilities for treating articles with boiling water in the sick-room, they may with safety be removed to another part of the house for this treatment if they are carefully enveloped in a towel or sheet, as the case may require, which has been thoroughly soaked with either Standard Solution No. 1 or Standard Solution No. 3. Thus enveloped, they should be put in the water, and boiled for the required time.

Chloride of Lime.—This substance, also called chlorinated lime, to be effective as a disinfectant, must be of the best quality, and in purchasing it only that should be accepted which is enclosed in glass bottles, as when packed in paper or wooden boxes it is liable to have so deteriorated as to be worthless for disinfecting purposes. When dissolved in water, in the proportion of four ounces to the gallon, it forms the Standard Solution No. 1, recommended by the Committee on Disinfectants. The solution thus prepared is to be used in the disinfection of

discharges in contagious diseases, especially in typhoid fever and cholera. One pint should be well mixed with each discharge; after ten minutes disinfection is completed, and the contents of the vessel may be then safely thrown in the privy vault or water-closet. The expectorated matter of those sick with consumption should be discharged into a cup half filled with this solution or with Standard Solution No. 3.

To thoroughly disinfect a privy vault, Standard Solution No. 1 should be used in large quantities—one gallon for each gallon of material in the vault; the surface of the contents should be subsequently daily covered with the dry chloride of lime. The cost of the Solution No. 1 is about three cents a gallon.

Solution of Chlorinated Soda.—To be effective, this solution must contain at least three per cent. of available chlorine, and in purchasing it care should be exercised to obtain such a quality. This is sometimes spoken of as Labarraque's Solution; but as this latter substance is too weak to act as a disinfectant, the name is liable to mislead, and is therefore here not used. The Standard Solution No. 3 of the committee is made by adding five parts of water to one part of the solution of chlorinated soda. The cost of this solution is about ten cents a gallon. When thus diluted, it may be used for all the purposes for which Standard Solution No. 1 was recommended, and is of a somewhat more agreeable odor, though more expensive.

This solution should be used to cleanse portions of the body soiled with discharges of those sick with infectious diseases, or the hands of attendants similarly soiled.

Bichloride of Mercury (Corrosive Sublimate), is recommended in this circular to be used only in the disinfection of privy-vaults which contain so much material, believed to be infected with the germs of typhoid fever or cholera, that the

disinfection by Chloride of Lime would be impracticable. In using this it should be dissolved in the proportion of one ounce of Bichloride of Mercury to one gallon of water; this quantity will disinfect four gallons of infected excremental matter.

TREATMENT OF THE BODY OF THE PATIENT AFTER RECOVERY OR DEATH.

When the patient has recovered, he should be first sponged over with the solution of chlorinated soda, diluted in the proportion of one part to twenty parts of water; and, indeed, during the course of the illness, occasional sponging of the body with this very diluted solution, under the direction of the attending physician, will be of value in preventing the escape from the surface of the body of infectious material. When, after recovery, the body has been thus sponged, not omitting the head and hair, a thorough washing of the body with soap and warm water should follow, and the patient dressed in clothes which have not been exposed to infection. This should take place in another room than the one occupied during the illness.

Should the case result fatally, the body should be thoroughly sponged with either Standard Solution No. 1 or No. 3, and then wrapped completely in a sheet saturated with one of these solutions, and enclosed in a coffin, which is to be closed, and the interment must take place within twenty-four hours, and be strictly private. If the interment is to take place at a distance, requiring transportation by any other means than a hearse, the coffin must be of metal, or metal-lined, and hermetically sealed.